THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Kentucky Petroleum Marketers Association, Seelbach Hotel, Louisville, Ky., Oct. 14.

Big Four State Jobbers Convention, (Missouri, Iowa, Kansas and Nebraska), President Hotel, Kansas City, Mo., Oct. 14, 15, 16.

Wisconsin Petroleum Association, Madison, Wis., Oct. 15.

Virginia Oil Men's Association, Charlottesville, Va., Oct. 16, 17.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Room 517, 510 West 6th St., Los Angeles, Oct. 17.

National Association of Credit Men, Petroleum Refiners Division, St. Louis, Mo., Oct. 20, 21, 22.

Oil & Gas Well Supply Traffic Association, Palmer House, Chicago, Oct. 21, 22.

Texas Petroleum Marketers Association, Mineral Wells, Tex., Oct. 23, 24.

Independent Petroleum Association of Texas, San Antonio, Oct. 27

Independent Oil Men of America, Marketing Congress and Exhibit, Statler Hotel, St. Louis, *Mo., Nov.* 2, 3, 4, 5.

American Petroleum Institute, Stevens Hotel, Chicago, Nov. 10 to 13.

American Oil Chemists Society, Congress Hall, Chicago, Nov. 13, 14.

Nebraska Independent Oil Men's Association, Paxton Hotel, Omaha, Dec. 2, 4.

National Petroleum News

Vol. 22 No. 41

Published by

The National Petroleum Publishing Co.
1213 W. Third St., Cleveland, O.

Tel. CHerry 7672

Branch Offices:

Tulsa, 904 World Bldg., Tel. 3-7132.

New York, 342 Madison Ave., Tel. Vanderbilt 3951.

Houston, 2020 Gulf Bldg., Tel. Fairfax 6286.

Chicago, 35 E. Wacker Drive, Tel. State 4141.

Subscription rate $3.50 per year, U. S., Mexico and Canada; $5 Foreign countries. Current copies 10 cents; for back issues more than two months old 25 cents per copy.

All contents copyrighted, 1930, Trade Mark Registered U. S. Patent Office.

Member Audit Bureau of Circulations and Associated Business Papers.

General

Settled Production in Oklahoma Now Comes Under Proration 19
Weighted Average to be Displaced by Chicago Market 21
Giving Away "Gas" on Opening Days Abolished by Phillips Petroleum Co. 23
Supply and Demand of Gasoline for Next 6 Months Studied 24
Cabinet Members, High Oil Officials Open Seventh Exposition 25
Pennsylvania Refiners to Install Co-operation Cracking Unit 26
Indian Refining Extends 11 Months Credit to Aid Farmers 27
Little Change in U. S. Production; Imports Drop 27
A.P.I. Report of Refinery Operations Week Ended Oct. 4 28
Oil Well Supply Traffic Men Push Part Unloading Plan 34
Text of Decision Upholding Oklahoma Proration 35
Safety Men Boast of Long Records as Prizes are Awarded 37
A.I.M.E. Discusses Unit Operation as an Economic Necessity 39
Wildcat Shows in West Kansas and Big Wells in Tatums Pool Feature of Week 43
New Companies Enter Kettleman Hills; Pipeline Outlets Projected 44
Nominations for Crude Purchases Cutting Texas Production 45
Gassing Slightly—*by Hon. Rollin Stone* 52
Big Lake Producers Run Tubing in Effort to Cut Output 53
Hobbs, All Three of Them, Wait Hopefully for Oil Boom 55
U. S. Crude Production by Fields Week Ended Oct. 4 97

Merchandising

$100,000,000 Market Awaits You 29
Buffalo Independent Built Business While Others Were Selling Out 77
Know Customer is Able to Pay Before You Sell Him Goods on Credit—*by W. D. Hudson* 91

Engineering

Construction of Tube Stills for High Pressure and Temperature Work—*by John Primrose* 57
Care in Installation of Hot Oil Pump Essential, Say Manufacturer 61
Vapor Recovery is Individual Problem in Each Refining Plant—*by G. M. Jackson* 65

Markets

Chicago, Burning Oil Prices Advance 101
Mid-Continent, Gasoline Markets Continue Unsettled 103
Refinery Price Tables 104, 106, 107
California, Trading Quiet; Prices Unchanged 110
Pennsylvania, Several Products Quoted Lower 111
Gulf Lube Movement Fair 111
Eastern, Gasoline Demand Fairly Active 112
Gulf, Foreign Buyers Withdraw Inquiries 112
Wax, Demand at Low Ebb 112
Complete Seaboard Prices 114
Tank Wagon Price Tables 116
Aviation Gasoline Price Tables 117
Crude Oil Prices, All Fields 119, 121

Departments

The Trend of the Times—*by David Lawrence* 33
The Mid-Continent Skyline 48
New Refining Patents 64
New Patents 74
Changes in Oiling, Greasing and Fueling Systems of New Auto Models—*by John Younger* 85
On the Lazy Bench 87
Letters to the Editor 108
N.P.N. Service Record 113
Oil Company Finance 122, 124, 126

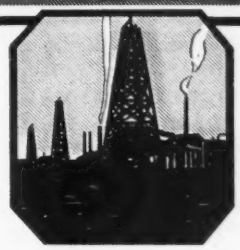
ROBERT S. ELLISON, new president of the Stanolind Crude Oil Purchasing Co. (formerly Sinclair), arrived in Tulsa late last week to take up his duties. He succeeds Henry L. Phillips who elected to remain with the Sinclair organization, following the Standard Oil Co. of Indiana's purchase of the Sinclair half interest in the crude purchasing company and the pipeline.

Mr. Ellison was born in Indiana and was educated in the law at the University of Indiana. He went to Colorado Springs about 1900 and established a law practice. Several years later he joined the legal department of the Midwest Refining Co. and in 1919 went to Casper to have charge of the Midwest operations in the producing fields of that state and Montana. He has been there continuously for 11 years, during which time the Midwest played the principal part in the development of the Salt Creek field.

In addition to heading the Stanolind Crude Oil Purchasing Co., Mr. Ellison will serve in an executive capacity in the Stanolind Pipe Line Co. and will assist in the reorganization of the two companies to conform to their new status.

NATIONAL PETROLEUM NEWS

Published at
1213 W. Third St.
Cleveland



Branch offices
Tulsa, New York, Houston, Chicago

Vol. 22 **CLEVELAND, October 8** **No. 41**

Settled Production in Oklahoma Now Comes Under Proration

TULSA, Oct. 4

STRENGTHENED by a decision of the federal court in the Champlin Refining Co. case, upholding Oklahoma's conservation law, operators meeting here Oct. 3 drew up a plan to extend proration over the last three months of the year.

The state's production is to be held to 550,000 barrels daily in October, the old figure; to 545,000 barrels in November and to 535,000 barrels in December; these figures being estimated demand for crude for the same period.

The chief feature of the new proration program is the inclusion of many properties with settled production not heretofore under proration.

Some objection was expressed to this, chiefly by southern Oklahoma operators, but no vote was recorded against it. Morgan & Flynn, Dixie Oil Co. and Amerada Petroleum Corp. wished to be shown as not voting.

Hearing will be held by the state corporation commission Oct. 10 on the petition filed by Wirt Franklin asking that state body to investigate the market outlet for Oklahoma oil and issue an order prorating production to that level. The report adopted in the Oct. 3 meeting will be filed by the operators with the commission as evidence of the operators' viewpoint.

The order which governed proration over the third quarter expired Sept. 30. Held up by the suits against the commission, hearing could not be held and the commission issued an interim order carrying proration to Oct. 10 on the September basis.

The inclusion of the small wells in the proration program will enable the Oklahoma City pool to market more oil. Its proration has been on the time basis and in recent weeks has been restricted in theory to 5.5 per cent—producing time per well. In fact, it has been able only to make about 3.5 per cent of its potential production. Field storage is congested and some leases are not able to produce at all. The new proration plan gives the field an outlet of 130,000 barrels daily. Pipeline runs have recently averaged 93,000 barrels daily.

Proration of the old wells in settled pools is expected to fall upon 10,000 of the 60,000 wells not hitherto prorated and to effect a cut of 56,000 barrels in the state's production in October, part of which will be absorbed in the increase given to Oklahoma City.

A basic exemption of five barrels per well lease average is given. Thus, a lease with eight wells which makes 40 barrels per day or less is not affected. The excess above five barrels per well will be prorated 50 per cent. A lease with eight wells which makes 80 barrels daily will be prorated on the basis of 40 barrels, and it would be cut by 20 barrels.

Operators are asking the commission to proceed in another way to limit production and to include restrictions on wildcat wells which find production. Operators would limit discovery wells to 50 barrels per day, after one day of open flow for testing, and would recognize no discovery rights of producing to capacity until other wells are drilled.

The new proration plan divides the pools of the state into eight classes. Class A includes areas not heretofore prorated. October production from these pools is estimated at 259,280 barrels potential and under proration at 202,965 barrels.

Class B includes Allen, Bowlegs, Earlsboro, Little River, Lovell, Maud, Mission, Sasakwa, Searight, Seminole and St. Louis. Estimated potential for October is 277,433 barrels. They are to be prorated 50 per cent except that any lease not capable of making more than 50 barrels per day shall be given an exemption of five barrels per well and the 50 per

cent cut applied to the excess over five barrels per well.

Class C includes the Carr City pool with its new extension and the South Earlsboro pool. Leases in these pools making more than 300 barrels daily will be held to 25 per cent of potential; leases making 200 to 300 barrels to 30 per cent, but not to exceed 75 barrels; 100 to 200-barrel leases 37¼ per cent but not more than 60 barrels and less than 100 barrels 50 per cent.

CLASS D pools—Konawa is the only one in this group. Leases capable of producing more than 400 barrels per day would be allowed to produce 18¾ per cent; 300 to 400 barrels, 22½ per cent but not more than 75 barrels; 200 to 300 barrels, 26¼ per cent but not more than 67 barrels; 100 to 200 barrels, 37½ per cent but not to exceed 53 barrels and less than 100 barrels, 50 per cent.

Class E pools include East Earlsboro and West Asher, or Wanette. It is recommended that East Earlsboro be limited to 15,000 barrels per day and West Asher to 7200 barrels. The umpire and the operators' committee would from time to time vary the percentages to conform to these maxima. The five-barrel well exemption would apply.

Class F pools include the Tatums and Chandler pools. It is recommended that wells with potential of 400 barrels or more be held to 100 barrels; those in the 100-400 barrels class to 50 barrels and those with daily potential of less than 100 barrels be allowed the five-barrel exemption and curtailed 50 per cent of the amount over that.

Class G includes West Perry, Orlando and Twp. 20N-R.4W. They are new and little drilling has been done in them. The report recommends that the restrictions now in force be continued. They are limited to 600 barrels daily, in the case of West Perry, and 400 barrels daily in the other two.

Class H is the Oklahoma City pool. It is to be held to 130,000 barrels daily. The manner of restricting the flow will be handled by the Oklahoma City operators' committee, as in the past.

Following the decision in the Champlin Refining Co. case in which the court went farther than a mere denial of the temporary injunction sought and expressed its opinion upon the constitutionality of the state law forbidding waste, upon which the proration program is based, the C. C. Julian Oil & Royalty Corp., which had a similar case before the state supreme court, filed motion for dismissal. The Julian case was argued Sept. 9. It is discretionary with the court to dismiss it. Leaders in the proration movement are hoping the court will go ahead and render an opinion, thus possibly making the victory a double one. Champlin will amend its bill and the federal court will try the case on its merits.

The Champlin case, raising a constitutional question, was heard by Judge John H. Cotteral, of the 10th circuit court of appeals and by U. S. District Judges Robert L. Williams, Muskogee, and Franklin E. Kennamer, Tulsa. Somewhat unusual was the fact that Judge Williams played a part in the making of the conservation statutes under attack. As governor he signed the bill in 1915.

THE court looked into the future in denying the injunction and passed upon the question of waste that might occur, were Champlin allowed to produce its wells without restriction. The state's contention was that one producer, operating as he pleased, would force others to follow the same course and that, with market outlet but a small percentage of the potential production of the Oklahoma Ciy pool, oil produced there would be stored in earthern reservoirs and otherwise lost. The court asserted it was a valid exercise of the police power to prevent such waste.

Attorneys and executives who have been contending for the principle of equitable taking of oil from a pool see in this decision an affirmation of their opinions. The court said:

"It has been authoritatively decided that it is competent state legislation to prevent waste of gas or oil, both to protect producers from a common pool and to conserve the resources of the state."

The opinion was read by Judge Cotteral. Judge Williams concurred and said he desired to add that the Champlin Refining Co. has followed the wrong procedure. It was the duty of the company to apply to the corporation commission for relief and, if that were denied, to appeal to the supreme court of the state as provided by state law. The federal court should be invoked only after the other channels had been utilized, Judge Williams said.

JUDGE KENNAMER, acquiesced in the denial of the injunction but took a different view of the waste question. He said that he was "not ready to agree that it is not unlawful to prevent a person who owns property or land from exploring that land if he can market his product without waste, that is physical waste or any waste, for any commercial purposes that the statute does not prevent. . . . Now, my idea is that the public, the people of the state, have a right to buy the finished product in the open market where each producer is equitably regulated and with lawful regulation, with the equal opportunity to reduce to possession and put his product upon the market.

"That gives the people the benefit of the competition that may result between honest industries in that line of business. I agree with Judge Williams that, before the complainant could maintain this action, as a matter of comity between state and federal authorities, it should apply first to the corporation commission for permission under that conservation act for the right to refine and market its own product without physical waste. That if the commission denies it that right and puts another construction upon the Oklahoma statute, then I am clearly of the opinion they are invading the property right protected by the federal constitution. . . ."

The opinion of the court in the Champlin case is given in full beginning on page 35 of this issue.

Weighted Average to be Displaced By Chicago Market

By Warren C. Platt
EDITOR

BECAUSE after the completion of the new gasoline and crude oil pipelines to the North and particularly to the Chicago refining district, this Chicago-Great Lakes refining area will be the biggest gasoline producing district in the world, NATIONAL PETROLEUM NEWS, on or after the first of 1931, will discontinue compiling the Oklahoma Group 3 price as a weighted average, and will use the energy and money thus saved to concentrate on gathering the prices created by this vast growing northern refining district. Just what date the weighted average will be discontinued will depend upon the wishes of the trade that may have existing contracts upon it.

A price for Oklahoma will not be discontinued but it will be on the old basis showing a high and low and will, as in the past, apply on products sold and actually shipped from refineries in the state of Oklahoma, or Group 3. Its practical effect will be local, applying probably to a territory but a few hundred miles north of Group 3, if that far.

NATIONAL PETROLEUM NEWS has for several years been emphasizing to the trade the great growth in importance and its effect on prices of the Chicago refining district. This paper has pointed out that it has been the real price setter for a long time and that Oklahoma refiners for years had been steadily retreating out of eastern and northern territory. This withdrawal meant that they were not exercising any direct influence at least, on those territories that they were leaving, so far as the tank car price went. The retreat has been rapid, at times a rout.

There has been much increase in refining capacity in the northern area, chiefly Chicago, but also East St. Louis, and Ohio points, the last few years, the importance of which the trade probably has not realized.

IN THE LAST TWO YEARS crude oil pipeline capacity to this district has been increased or is now being increased by 250,000 barrels a day alone. The capacity has been more than doubled, to say nothing of the fact that a great deal of the capacity of the old lines that used to carry oil from the Mid-Continent through to the Atlantic coast, has been used for this northern central refining district. The East coast practically gave up Mid-Continent crude by pipeline several years ago. This increase of 250,000 barrels a day, and it is INCREASE and not total capacity, is about equal to the total capacity of the refineries in Oklahoma today.

Now, somewhere about the first of the year or shortly thereafter there will also be unloaded BY PIPELINE within this northern territory approximately 60,000 *barrels a day of gasoline* or more than 2,500,000 gallons a day. This will come largely from Oklahoma refineries and some from Texas. This amount of gasoline which is coming north by pipeline in only one day will represent more than 2½ months of the amount sold on the OPEN SPOT TANK CAR market IN OKLAHOMA this summer. That does not mean that the 2,500,000 gallons will be sold each day on the spot market but the comparison with the spot market of this summer is given to show how mighty small and thin it has been, and how enormous this NEW supply of gasoline up North will be.

Counting in the gasoline that will be made from this additional crude, and using a low factor of 50 per cent for the gasoline yield, there can be and probably will be unloaded in this northern refining area, of St. Louis, Chicago, Toledo and Ohio points some 7,000,000 to 8,000,000 gallons of ADDITIONAL gasoline PER DAY —not per week, nor per month, but *each day*— over that unloaded two years ago.

No wonder, then, the Oklahoma or Group 3 spot market has been thin. It has dropped to less than a fourth of its size of last year. The first nine months of 1929, we reported as sold on the open spot market 12,410 tank cars of U. S. motor gasoline. From identically the same refineries this year we reported only 2936 tank cars sold in the same period.

This shrinkage was probably heightened by more refiners and more jobbers taking out their gasoline on contract rather than selling and buying it on the spot market. Every tank car taken out on contract just reduces the spot market by that much. These contracts have been steadily nibbling away at the spot market for years. But the chief reason why that spot market has been getting thinner and thinner, is that the gasoline has been made up North more and more for the northern market.

NO BUYER can afford to minimize the effect of this switching of gasoline production to the North. It is gone from Oklahoma, and probably forever, but where it may next go is a question for the future to determine. But the buyer should bear in mind that this gasoline market dominance has actually left the Oklahoma refiners, so far as the vast Middle West of this country is concerned.

This northern refining area, using Chicago as the base point for the purpose of rough illustra-

tion, will undoubtedly dominate everything north of the Ohio and pretty much north of the Missouri rivers. By dominate we mean that no refiner from another district can sell gasoline in this big district as cheaply and as profitably as a refiner or gasoline pipeline in this northern district. If the refiner in an outside district comes sharpshooting in this northern district and sells at a loss, refiners in this northern district can meet his price at not more than half the loss of the invading refiner, if as much as half.

We do not mean to say that the refiners in this northern district, or those supplying it from their Oklahoma refineries by pipeline, are going to sell gasoline at a loss, or indulge in a useless price war. They probably will, by the nature of things, maintain such a level of prices that no outside refiner can come in at very much of a profit. In other words, they will maintain their advantage gained by the fact that pipeline transportation is cheaper than rail, to hold such share of the gallonage as they may choose, and it will be by far the greater part of it.

THE new alignment of territory will not come about in a day or a year. It will be sharpened up gradually as it has been sharpening the last several years. There undoubtedly will continue to be large quantities of gasoline shipped into that territory by tank car from Louisiana, Arkansas, Oklahoma, Texas and Kansas for a number of years yet, perhaps for many years. But the point for the buyer to keep in mind is that the price will be fixed by the refiners advantageously located within this northern district.

There may be times, and quite likely, when some of these outside districts will make lower prices delivered in the northern district than the northern refiners will meet. That is, jobbers in this northern district may at times be able to buy gasoline cheaper in Texas or Louisiana or Oklahoma and have it shipped in by tank car rather than buy it at the northern end of one of these gasoline or crude oil pipelines. But it is an every day fundamental of business that no group of manufacturers who have a distinct cost advantage over competitors will give up any considerable amount of their business for any great length of time.

When *too much* of their business is going these northern refiners will unquestionably meet the price and get the business back. Whether this will be after a day or two of low prices from invading refiners, after a week or two, or even a month or two, will entirely depend upon circumstances and the judgment of these northern refiners. But the chances are the invading refiners having to sell their gasoline, probably at low prices to get into the territory anyway, won't sell very much of it there or at a loss for any great length of time.

The northern refiners will let these outside refiners in, providing they don't distribute their —the northern refiners'—prices up to the amount of the business that the northern refiners and these gasoline pipelines cannot supply. NATIONAL PETROLEUM NEWS will have articles on this volume of supply needed from outside in future issues.

NATIONAL PETROLEUM NEWS and THE OILGRAM have for years shown a tank car market—called the "resale market"—at Chicago and these two price reporting media have shown for the most part in all these years the lowest prices of any price reporting media showing prices at Chicago. This too will be discussed in subsequent issues. This has been because these two publications have the facilities at Chicago to cover that market most thoroughly.

All NATIONAL PETROLEUM NEWS is doing now in abolishing the weighted average in Oklahoma, is saying that the bother and expense of gathering the detailed sales reports every day at Tulsa and compiling the weighted average is not worth while because the market, as a price indicator, covers too limited a territory, is in fact today largely a local market so far as influence on the prices obtaining over the whole middle and central west are concerned.

Showing prices in a market from reports of actual sales and then reducing them to weighted averages is the most accurate and fairest way of showing just what prices are, just as prices reflected on a stock or commodity exchange are more accurate than those gathered in the street. Whether this more accurate way of gathering prices will ever be possible in the northern area depends on the future.

However, that time promises to be rather far distant at least because of the many varied sources of supply within and without this northern area, and also because there seems to be coming into the industry the custom of a refiner making prices somewhat suited to the particular territory or metropolitan district to which he is shipping. Price wars have sprung up over the country in many important sections which seem to be bringing this about. How far this tendency will develop time only can tell.

FOR the present, at least, prices shown from refineries and ends of pipelines in this northern district, will continue to be shown on the **Group 3 freight rate basis.** That is the refiners in the north will figure their prices back as if the goods were to be shipped from Group 3, Oklahoma, by rail. It is our guess that the time will come, perhaps sooner than we realize, when a new freight basis will be used, probably that of the Chicago-Whiting, Ind. district because from this district for years there have been good, if not even low, freight rates on petroleum and its products applying to all points in this area because the Standard Oil Co. of Indiana got those rates to take care of shipments from its big refinery at Whiting, Ind. to its stations, and also from Wood River, Ill. (East St. Louis.) The refineries built there since are only using the Standard's rate fabric.

When prices will be based on Chicago-Whiting freight rates, depends upon how soon the trade gives up its habit of figuring on a Group 3 basis and the Independent marketers of the country have been brought up these last 15 years on the Group 3 basis because that was for years their chief or only source of supply.

This basing has caused much confusion of late years in the buyer's mind, and even at times has cost the buyer money, because he—the buyer—

did not differentiate between a price made on a freight rate basis with which he was familiar and the real price at the refinery outside of Group 3, with whose freight rates he was not familiar.

Thousands of buyers have at times assumed that because a price was quoted F.O.B. Group 3 that the goods were coming from Oklahoma, when they might be coming from a refining district 500 miles away a refining district that might be enjoying a lower freight rate to the buyer's bulk station than the refiners in Group 3. NATIONAL PETROLEUM NEWS has written about this many, many times, but we know of buyers who still persist in the delusion.

NATIONAL PETROLEUM NEWS makes this announcement regarding the abandonment of the Group 3 weighted average about Jan. 1, 1931, in order to give both sellers and buyers opportunity to study the situation before making next year's contracts, and in the hope that those contracts will be made with a fuller knowledge of the facts existing in the industry today, than were many contracts that have been made in the past.

The situation as regards this changing of markets will be discussed frankly and fairly in subsequent articles between now and the first of the year, for the better information of the industry.

Giving Away "Gas" on Opening Days Abolished by Phillips Pet. Co.

TULSA, Oct. 4

PHILLIPS Petroleum Co. has signed the code of marketing practices, W. R. Boyd, jr., executive vice president of the American Petroleum Institute, announced at a meeting of the general institute committee on marketing here Oct. 3.

The Phillips company had heretofore refused to sign to observe the code in all its provisions, because of its practice of giving away gasoline on opening days at new stations. It has observed other provisions of the code, excepting only Rule 16, which provides that "no oil or other thing of value shall be given away, or special inducement granted, on opening days, special sale days or other occasions."

In a letter to Mr. Boyd, Frank Phillips, president of the Phillips Petroleum Co., stated that, while his company considered the giving away of gasoline at opening days as advertising, and not as any rebate or price concession, and believed it had been of material value in building up business at stations, in view of the attitude of other companies it was giving up the practice and, consequently, signing the code as observers of all its provisions.

In commenting on what this meant to the Phillips company, Mr. Boyd stated that the company recently opened a new station in St. Louis, at Big Ben and Clayton boulevards, on a site where a station previously had averaged 800 gallons a day in sales. The Phillips company sold 67,000 gallons on its opening day and gave away 40,000 gallons. Its daily sales at the station have since been around 4000 gallons.

Mr. Boyd said it was understood that the Mid-Continent Petroleum Corp. now would withdraw its resignation as a signer of the code.

While the Tulsa meeting, under the chairmanship of H. M. Dawes, president of the Pure Oil Co., was an open forum for discussing of marketing problems generally, practically all its attention was given to the code. In the discussion it soon became apparent a principal cause of friction among marketing companies today is the lease and license agreements, under which the oil company makes the station owner or operator its agent, equips the station in many cases and sets the prices at which the station shall sell its products.

R. D. Leonard, Atlantic Refining Co.; P. M. Miskell, Empire Refineries, Inc.; and E. L. Shea, Tide Water Oil Co., in effect said that it was time the general code committee faced the facts as to what was being done under the cloak of the lease and license agreement. Mr. Shea said he considered the code in danger of breaking down along the eastern seaboard because of the practices in violation of the spirit of the code, if not of the letter.

Mr. Miskell said that about everything that was forbidden in specific clauses in the code was being done through the lease and agency agreements. Mr. Leonard said that permits issued in his territory showed that about 50 per cent more equipment was being installed now than before the code went into effect, most of this at stations taken over by oil companies under the agency agreements.

Upon motion of Mr. Boyd, a resolution was passed to the effect the chairman of the three regional code committees along the Atlantic seaboard constitute a special committee to call a meeting of oil company marketing executives in this territory to work out some solution of this problem, if possible, and report to the general marketing committee at the institute annual meeting in Chicago next month.

Other speakers, among them R. C. Holmes, president of The Texas Co., spoke of the advantage of the lease and license agreement as being a form of arrangement with the resale agent which allowed the oil company to control the price at which its branded products were sold, which was particularly desirous under conditions of competition today. Mr. Holmes said it might be desirable to work out a standard form of

lease and agency agreement which could be used by all companies, which would do away with a great deal of criticism of the practice today.

Asked to comment on how the code was working out in individual territories, W. T. Holliday, president, Standard Oil Co. of Ohio, said that those studying the observance of the code must also consider the fundamental economic price structure in the territory. If margins between the tank car price and the tank wagon price become too great, violations are bound to occur, he said. He said he believed the regional code committees should consider and announce what might be considered proper margins under current market conditions, and that this could not be considered as an attempt to set prices.

One principal advantage of the code had been, Mr. Holliday stated, to bring competition out in the open through requiring the posting of prices.

J. W. Carnes, Sinclair Refining Co., New York, said he believed it was remarkable the code had been so well observed. "If we can get along in Standard of Indiana territory without commercial discounts, I do not see but that it could be done along the seaboard," he said.

Roy B. Jones, Panhandle Refining Co., chairman of the general code committee, summing up progress in the industry under the code, said no industry had drifted into such poor marketing practices as the oil industry, and that the job of reforming those practices could not be worked out in a year under the code or any other plan.

Supply and Demand of Gasoline For Next 6 Months Studied

TULSA, Oct. 4

STUDY of the economics of the gasoline market was projected ahead six months by the division of refining of the American Petroleum Institute, meeting in Tulsa Oct. 2.

A joint committee of refiners and producers, to be named shortly, is to make a detailed estimate of gasoline supply and demand, by districts for the coming six months and have this material ready to present at the annual meeting of the institute in Chicago next month.

The institute is also to try to arrange with Secretary of the Interior Wilbur, chairman of the Federal Oil Conservation Board, to have his Committee on Petroleum Economics prepare a similar report for purposes of comparison. This committee, of which J. Elmer Thomas, Fort Wayne geologist, was chairman, last April made a study of general petroleum requirements for 1930.

The general institute committee on refining, presided over by Chairman W. M. Irish, president Atlantic Refining Co., studied the institute survey on working stocks of gasoline required by the various refining districts as of Sept. 30. This survey was made by sending a questionnaire to the individual companies asking for what they considered necessary working stocks to carry into the season of slack consumption.

It was shown (see accompanying table) that about 10,000,000 barrels less stocks is considered necessary than is being carried by the refining industry today. Carrying this excess was recognized as costing the industry considerable in carrying charges, to say nothing of its effect on gasoline market prices.

The general institute production committee, with Chairman W. N. Davis, Phillips Petroleum Co., presiding, met in Tulsa Oct. 2. It considered production features of the program for the coming institute annual meeting and voted in favor of mid-year meetings of the institute by divisions.

The committee on refining also voted for a mid-year meeting of that division, as did the general committee on marketing, meeting the following day.

REQUIRED Working Stocks of Gasoline, by Refining Districts, Sept. 30, as surveyed by American Petroleum Institute. For Comparison Sept. 27 Actual Stocks are Given, Based on Institute Weekly Report (Corrected to 100 Per Cent of Operating Refineries). Bureau of Mines Actual Stocks as of Aug. 31 are Also Shown.

District	Required Stocks Sept. 30	Actual Stocks Sept. 27	Per Cent Excess	Bureau of Mines Stocks Aug. 31
East Coast ...	4,696,000	5,301,000	13	6,373,000
Appalachian ..	888,000	1,175,000	32	1,403,000
Ind., Ill., Ky...	3,925,000	5,580,000	42	6,145,000
Okla., Kans., Mo.	1,914,000	2,766,000	44	3,499,000
Texas	4,319,000	6,603,000	53	6,353,000
Louisiana-Arkansas	1,250,000	1,312,000	5	1,283,000
Rocky Mountain	1,173,000	1,937,000	65	2,100,000
California ...	10,819,000	13,859,000	28	14,456,000
Entire Country	28,984,000	38,533,000	26	41,612,000
Texas Gulf Coast	3,501,000	4,786,000	27	4,165,000
La. Gulf Coast	1,115,000	1,011,000	*9	957,000

*Deficiency

Note: Figures cover working stocks at refineries only, not at bulk terminals or in transit.

Speakers platform as the Exposition was formally opened, on the left. Henry L. Doherty, head of Cities Service Oil Co., is the speaker. In the first row back of him, from left to right are George L. Watkins, mayor of Tulsa; W. G. Skelly, president of the Exposition; Secretary of Commerce Robert P. Lamont; and at the extreme right, E. B. Reeser, president of the A.P.I. In the second row are Secretary of War Patrick J. Hurley, Congressman Charles O'Connor, and Senator V. Elmer Thomas and M. J. Travieso Paul, delegate of the Venezuelan government. In the back row is the Rev. C. W. Kerr. The picture on the right shows part of the crowd attending the opening

Cabinet Members, High Oil Officials Open Seventh Exposition

TULSA, Oct. 4

ADDRESSES by high officials of the petroleum and political world formally opened the seventh International Petroleum Exposition here today. To the thousands of early visitors it was apparent that the current exposition will exceed its predecessors in presenting a complete picture of industry in its latest garb.

Millions of dollars worth of equipment is on display. Marketing, for the first time, is receiving a prominent place in the exposition, which now depicts the course of oil from early exploratory work through the drilling of the well, transportation by pipeline, through the refinery, and to the ultimate consumer at the service station.

Two cabinet members were on the platform for the formal opening. They were Secretary of Commerce Robert P. Lamont and Secretary of War Patrick J. Hurley, a native son. Rev. C. W. Kerr offered the invocation. W. G. Skelly, president of Skelly Oil Co. and the exposition, outlined the history and purpose of the exposition and introduced E. B. Reeser, president of Barnsdall Corp. and the American Petroleum Institute.

Mr. Reeser was master of ceremonies. George L. Watkins, mayor of Tulsa, welcomed visitors to the city. The main speakers were Henry L. Doherty, head of Cities Service Oil Co., and Secretary Lamont.

Laws better fitted to meet the new concept of petroleum production would be the best remedy for the present situation, said Mr. Doherty, speaking extemporaneously. The modern conception of an oil pool, he said, where the gas pressure is regarded as a common possession of all owning an interest in the pool, made it imperative that development of newly discovered fields be governed by laws that take this condition into account.

Secretary Lamont, the principal speaker, said that he was among those who have always believed that every great industry has the ability to work out its own destiny, while many were clamoring for government control of the oil industry. It is gratifying, he continued, to know that the oil industry is showing that ability in large measure.

The secretary said he did not mean that government should show no interest in the welfare of the oil industry. It can help, especially by encouraging those in the industry to work together. The federal oil conservation board has worked for the stabilization of production through voluntary self restraint within the industry, and where necessary through an alternative of state regulation and of federal action as regards oil on public lands, he said.

On conservation, the secretary said he was not one of those who wished to bottle up our resources, who considered the future more important than the present, but that he felt, however, that reasonable conservation should be one of the major planks in our national economic policy.

Our industry's technical progress in recent years in all branches has been surpassed in no other field, he said.

Pennsylvania Refiners to Install Co-operative Cracking Unit

CLEVELAND, Oct. 4

THE Pennzoil Co. of Oil City, Pa. has let a contract to the Arthur G. McKee Co., Cleveland, for the construction of a second Dubbs cracking unit at its plant No. 2, near Oil City. This plant is to be of 2500 barrels per day capacity, for cracking charging stocks from Pennsylvania crude, gas oil mainly, and is to embody the most recent developments in handling this type of stock.

The first unit of this type installed by the Pennzoil Co. was completed more than a year ago and has been operating on the same type of charging stock during the past year. This company was one of the first to undertake the cracking of Pennsylvania stocks in the more modern types of cracking units.

This installation, on which work is to begin soon, is unique in that it is to be a "coalition" plant, a sort of community affair. Several refiners in the Oil City district have combined interests in cracking operations, and the final conclusion of this building contract is the outcome of negotiations which have been going on for several months, it is understood.

Four refining companies in this area have entered the plan and will utilize the cracking facilities thus provided. These are: Pennzoil Co., Independent Refining Co., Continental Refining Co., all of Oil City, and the Empire Oil Works, Inc., whose plant is at Reno, a short distance out of Oil City.

The 2500-barrel capacity will be sufficient to crack the gas oil from the three companies last mentioned, as well as that from the Pennzoil Co. which is not handled by the original Dubbs unit already in operation.

A recent survey by the Bureau of Mines credits these companies with the following plant capacities: Pennzoil Co., 7000 barrels per day, with 2000 barrels cracking capacity; Continental, 1000 barrels; Independent, 2000 barrels, and Empire, 1000 barrels, a total capacity of 11,000 barrels daily refining capacity. The total cracking capacity will be 4500 barrels when the new unit is completed, or 41 per cent of the total rated refining capacity of the companies now reported to compose the group. Whether or not other companies are included in the plan, or are to be permitted to join the co-operative organization later, is not now known.

It is understood that charging stock from each plant in the group will be transported to the cracking plant by a pipeline network serving the four plants and will be stored in common tankage. The plant is to be under the immediate control of Pennzoil technologists it is said.

Doubtless the most important consideration at present in the minds of most Pennsylvania refinery technologists and executives as well, is the problem of adequately improving the antidetonation quality of motor fuels made from that crude. A decade or more ago the purity of Pennsylvania straight-run gasoline, its freedom from sulfur and other deleterious substances, as well as the ease and low cost of refining it, made it a "premium" motor fuel from the point of view of both the producer and consumer. The introduction of higher compression engines, and the "anti-knock" fuels which the former demanded has created a difficulty for the Pennsylvania refiners which has been a decided disadvantage, and on which a great deal of study and effort has been expended.

Recently the State legislature established a chair of petroleum research at State College, which is under the direction of Dr. M. R. Fenske, professor of chemical engineering. Dr. Fenske has undertaken the investigation of methods for improving the detonation quality of Pennsylvania gasoline and has already reported results of a very promising character. A discussion of his preliminary findings has already appeared in NATIONAL PETROLEUM NEWS[1]. A preliminary report has also been published elsewhere[2].

[1]NATIONAL PETROLEUM NEWS, July 16, 1930, page 35.

[2]Ind. Eng. Chem., August, 1930, page 913.

Robert A. Searle

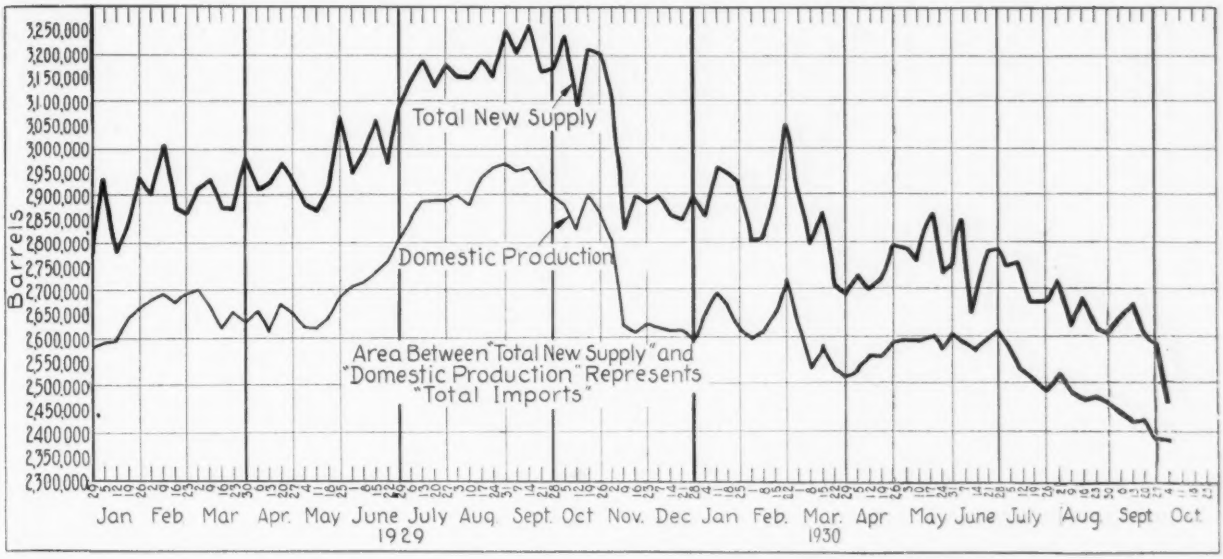
Searle New Sun Oil Co. Head in Oklahoma

DALLAS, Sept. 27.—Robert A. Searle, transferred from Dallas to Tulsa as general manager of the Sun Oil Co., refining and marketing organization in Oklahoma, succeeding Al Ballard, had been recently in charge of tank car sales of lubricants in the southwest. Mr. Searle joined the Sun organization several years ago.

In his many years of marketing experience, Mr. Searle has become known throughout the country. Resigning from the Ohio Cities Gas Co., at Columbus, before its name was changed to Pure Oil Co., Mr. Searle moved to Houston as sales manager of the old White Oil Corp., in 1920. He continued in that position through its reorganization as United Central Oil & Refining Corp., and so forth.

Later, Mr. Searle was associated with Louis F. Rothermel, Refineries, Inc., in a general marketing business at Houston.

Little Change in U. S. Production; Imports Drop



Daily Average Crude Oil Production and Imports Based on Current Reports of American Petroleum Institute

Indian Refining Extends 11 Months Credit to Aid Farmers

CLEVELAND, Oct. 6

OILS and greases are being sold to farmers for immediate delivery, the bill to be paid by Aug. 1, 1931, under the credit policy of the Indian Refining Co., Lawrenceville, Ill., to aid farmers suffering from last summer's drought. There is no interest charge, or note signing, for this extended credit.

The credit policy is to provide the farmer wth oils and greases for plowing and planting this fall and next summer, with collection after harvest next fall, said A. H. White, vice president of Indian. Gasoline is not included in the plan. Since the farmers are hit hard this fall Mr. White said his company was adopting a plan, used by several oil companies in the fall of 1929 in the middle west, with some of its farmer customers in a few sections.

Two oil companies mentioned as using this credit system deny extending such liberal credit terms to farmers. One company said a few farmers were extended the credit of oil and grease delivery in the spring with collection after harvest, and that on any future sale the second order was not filled until the company received payment for the first.

The other oil company reported taking orders in the fall, at the regular price, for delivery the following spring and summer. In case the farmer could not pay cash on delivery, the oil company would take his note, secured by a mortgage.

"Instead of just talking about drought and crop failure, our company believes that something should be DONE," states a letter to a farmer in Ohio, on Indian Refining Co.'s letterhead. "So we have taken the bull by the horns and actually started a plan that we believe will help the situation.—These unusual credit terms (delivery now, pay next fall) are being extended without any additional cost or notes of any kind." Attached to the letter was a business reply card if the farmer desired additional information on the plan.

Second Proration Attack

HOUSTON, Oct. 5.—Young Bros. & Alexander who have been producing their properties in the Newcastle field of Young county above proration allowances and selling in tank car shipments to the Primrose Refining Co. of Wichita Falls is the second Texas operating interest to enjoin the railroad commission from enforcing curtailment measures. An injunction obtained in the District Court at Austin and served on the commission Oct. 4, is similar to that obtained a week previously by Danciger Oil & Refining Co., Panhandle operators. Both attack constitutionality of statewide proration as applied to specific properties.

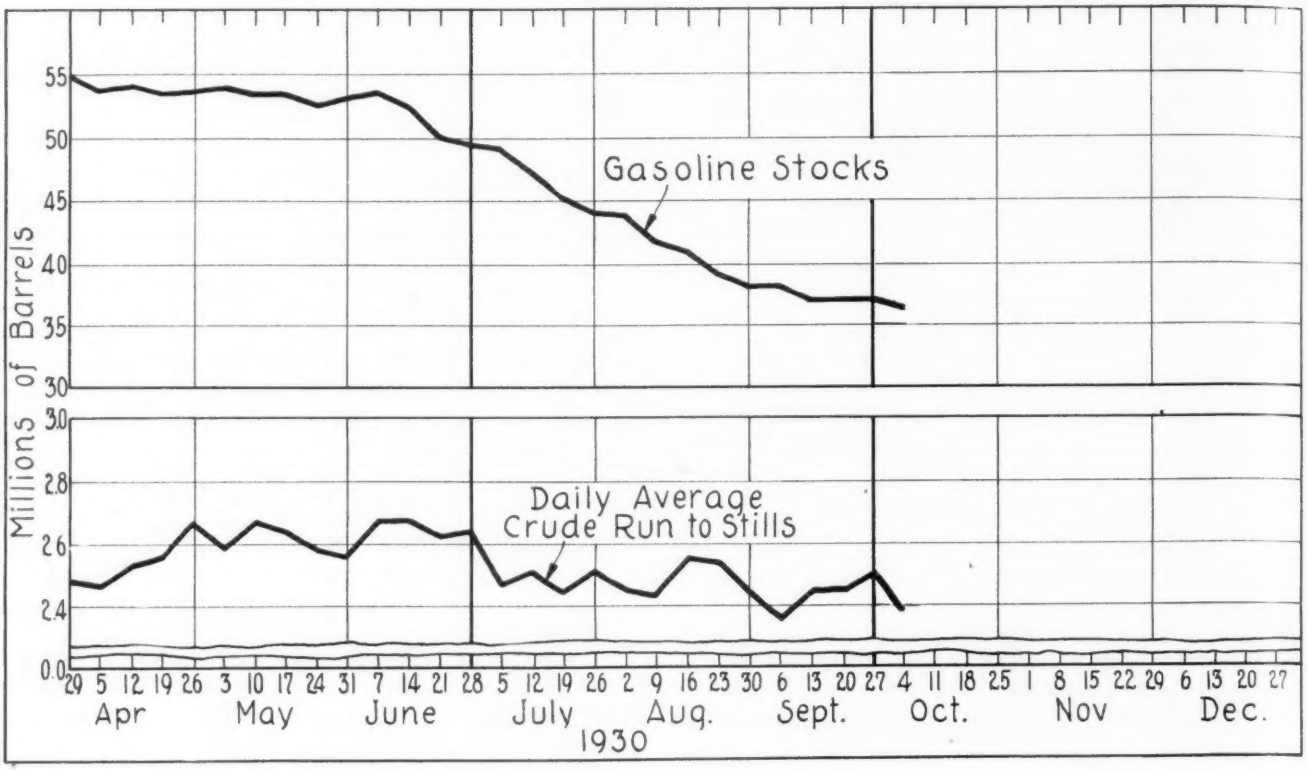
Pure Buys Interest In Ajax Line

CLEVELAND, Sept. 29.—Pure Oil Co. has bought an interest in the Ajax Pipe Line Co., controlled by the Standard Oil Co. of New Jersey, Walter C. Teagle, president of Standard, and Henry M. Dawes, president of Pure, announced last week. Standard maintains a majority interest.

Ajax is laying a twin 10-inch crude oil line from Glenpool, Okla., to Wood River, Ill., where it will connect with the line of the Illinois Pipe line Co.

Pure has refineries at Heath, O., and Cabin Creek, W. Va., and is building one at Toledo in conjunction with Hickok Oil Corp.

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



U. S. Gasoline Stocks Drop 781,000 Barrels

By Telegraph

NEW YORK, Oct. 7

STOCKS of gasoline at refineries were reduced 781,000 barrels in the week ended Oct. 4 according to reports gathered by the American Petroleum Institute from plants with 95.4 per cent of the nation's still capacity.

Gasoline stock reduction in the past four weeks approximating the month of September totaled 2,132,000 barrels. Reserves Sept. 6 as reported by the institute were 38,573,000 barrels and on Oct. 4 the total was 36,441,000 barrels. The steady stock reduction was accomplished by keeping crude runs to stills at below 70 per cent of capacity most of the month.

In the past week every group except one cut runs of crude to stills. Crude charges averaged 2,391,700 barrels, a reduction of 11,000 barrels daily average under the week ended Sept. 27. Refiners operated at 67.2 per cent of capacity during the week.

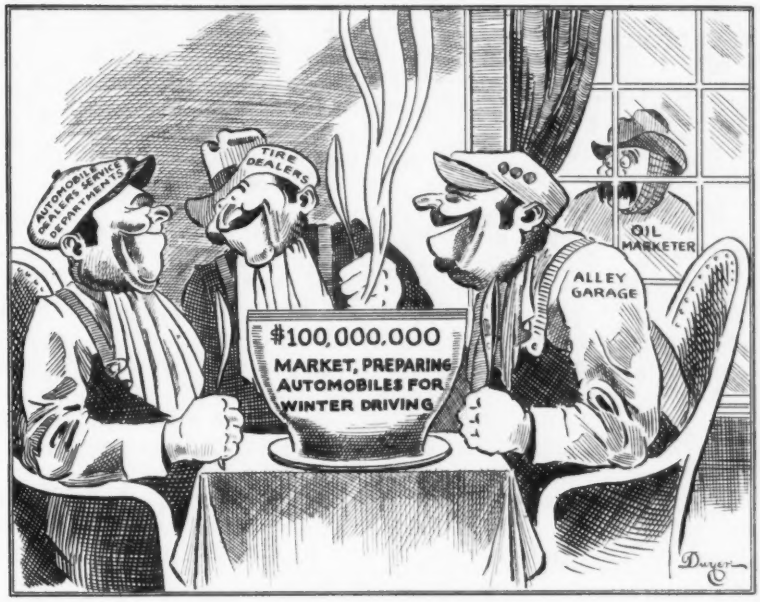
Texas refiners reduced crude runs 61,700 barrels daily average during the week and California operators cut runs 21,000 barrels daily average. Other cuts were small as was the increase in Oklahoma and Kansas.

Substantial reductions in gasoline stocks were made on the East and Gulf coasts and at Appalachian refineries, California reported a 43,000-barrel increase.

Fuel and gas oil stocks were reduced 328,000 barrels to 140,451,000 barrels.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Gasoline		Gas & Fuel Oil	
		Oct. 4	Sept. 27	Oct. 4	Sept. 27	Oct. 4	Sept. 27	Oct. 4	Sept. 27
East Coast	100.0	499,600	508,100	81.5	83.5	5,182	5,301	11,774	11,562
Appalachian	87.5	74,100	82,000	59.9	69.7	980	1,079	1,075	1,115
Ind., Ill., Ky.	97.5	285,800	288,300	75.0	75.7	5,497	5,558	4,339	4,419
Okla., Kans., Mo.	89.4	257,600	254,400	62.5	61.6	2,435	2,470	4,821	4,855
Texas	91.9	533,400	595,100	71.7	83.5	5,616	5,969	10,480	10,651
La., Ark.	98.3	160,600	164,300	61.3	62.7	1,132	1,270	2,153	2,160
Rocky Mountain	93.1	48,000	55,900	34.4	40.1	1,794	1,813	1,182	1,125
California	98.3	532,600	553,600	60.3	62.1	13,805	13,762	104,627	104,892
Total	95.4	2,391,700	2,501,700	67.2	71.0	36,441	37,222	140,451	140,779
Texas (Gulf Coast)	100.0	415,900	453,300	78.5	86.1	4,459	4,786	7,627	7,798
La. (Gulf Coast)	100.0	110,700	115,600	75.1	78.4	894	1,011	1,410	1,437



$100,000,000 Market Awaits You

By Roger B. Stafford

N. P. N. STAFF WRITER

MR. OIL MARKETER, do you know that upwards of $100,000,000 will be spent in the next 10 or 12 weeks in preparing automobiles for safe and pleasant winter driving?

A nice market isn't it? But are YOU acting to get your share of this fall and early winter outlay which can be raised to perhaps a quarter billion dollars if a good merchandising effort is made?

Are you going to let tire companies, automobile dealers' service departments, or alley garages get the lion's share of this business? Or are you going to take advantage of your hundreds of daily contacts with car owners to get a good portion of that business which your gasoline and oil stations are well equipped to handle?

Here is a chance, which needs only a little intelligent merchandising, to increase your profits per station. You probably will need no extra help at most of your stations, and only one or two more men at your busiest plants.

Don't let this business get away from you! It will help you to fill the gap the new gasoline station down the street left in your gallonage. It will make you friends. It is profitable. Be sure to have your men tell each customer why it is necessary to have the various items done.

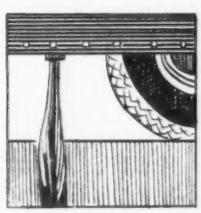
This preparation for safe and pleasant winter driving will be considered here under two classifications.

First.—The service and merchandise the simplest type of gasoline, oil, and lubrication service station can sell.

Second.—The service and merchandise a one-stop, master service station can sell. All service and merchandise at the first general type can be handled at the second type.

The Primary Service Type

This class of station has pumps for two or three grades of gasoline. It has a pit, rack or lift where crankcase oil is changed and perhaps chasses lubricated. The station building is small but there is space over the windows, over the lube tanks, or in some corner where may be stored a few articles of automobile merchandise—not trinkets for the collegiate roadster but real necessities for replacements of equipment or for making driving safer and more pleasant.



Crank Case

If the station is of fair size a display case may be set in. In the windows may be displayed goods that make for safer and pleasanter winter driving.

The services and merchandise which the simpler types of gasoline and lubrication stations can sell for winter preparation are these:

Crankcase—Drain, flush and refill with the proper grade of motor oil. Flushing is essential to clean out any dirt or metallic particles that may have accumulated during a summer's driving. The lubrication chart should be consulted for the

proper grade of oil recommended by the car manufacturer for winter use.

Transmission and Differential—Drain, clean and refill with winter grade gear lubricant. Cleaning may be done by steaming or flushing. If it is done by steaming all moisture must be removed from the cases before the new lubricant is injected. This is important.

A good method is to drain the new housings and fill them to the usual grease level with flushing oil. Jack up one rear wheel and see that the jack will hold the car. Then run the engine with the gears in high for about five minutes. Then drain the housings and put in the winter compound.

Steering Gear

STEERING Gear—Most cars will be found to contain a summer grade of gear lubricant or grease in the housing at the foot of the steering column. This compound should be removed with a suction gun that has a small tube nozzle. Winter grade compound should then be used to replace the extracted lubricant. Unless a low cold test product is used, steering will be difficult and may result in a serious accident.

Chassis and Body Lubrication—A thorough job should be done if the owner has neglected regulated lubrication. Damaged high pressure fittings should be replaced. Hood hinge, hood clamps, and door hinges, latches and lock should be oiled to prevent rusting which is more rapid in winter than in summer. Oiling the lock may prevent it from freezing in winter. Tell your customer why you are doing these things. It will please him.

Springs—Clean the springs with a wire brush and wash off remaining grime with kerosine or distillate. Then spray them with graphited penetrating oil so that moisture cannot get between the leaves and rust them. Broken springs can be prevented by keeping out moisture and rust. Tell your customer this, too.

Cooling System

COOLING System—Flush out the radiator; see that connections and gaskets are tight. Then add an anti-freeze solution. Tightening of engine head bolts may be done only when the engine is warm—never when cold. A table of solution formulae is published herewith. Consult your car capacity chart for cooling system capacities. More will be said under the one-stop station classification about conditioning the cooling system for winter.

Front Wheels—This service requires a man with some mechanical knowledge. The wheels may be pulled, the bearings cleaned with kerosine or flushing oil and the hub filled with cup grease. Don't pack the hub full of grease, say lubrication experts. In replacing the wheel screw up the star nut until the wheel is firmly in place but don't use too much pressure. Then turn the nut back one-sixth turn before inserting the cotter pin. See that the wheel will spin before calling your job finished.

Merchandise that may be handled at the simpler type of stations includes:

Tire Chains and Chain Stretchers—Seven sizes of chains will supply almost 98 per cent of the newer cars on the road today. These sizes with the wheel rim sizes are: 4.50 x 21; 4.75 x 19; 5.00 x 19; 5.25 x 19; 5.50 x 19; 6.00 x 19; and 6.50 x 19. Any chain made for a wheel with 19-inch rim may be cut to fit a wheel with an 18-inch rim. An inch difference in the diameter of the wheel means a 3-inch difference in the length of the tire chain.

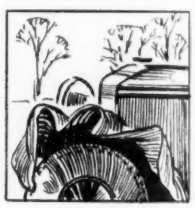
Stretchers will hold the chains taut and will prevent chains from flying off when they are not linked as tightly as they should be linked.

Radiator Covers—A few sizes for the lower priced cars that do not have shutters may be stocked.

Spark Plugs—Don't forget that manufacturers recommend a change every 10,000 miles. A hot spark from a clean plug is more essential in winter than in summer. Plugs that have gone through a hard season may be badly encrusted with carbon. This weakens the spark and poor ignition may be blamed on your gasoline. Sell a complete set. Your station man can install them in a few minutes.

Lamp Bulbs—Winter is the season for lamp bulbs. Lights are used many more hours in winter than in summer. The market for bulbs, therefore, is larger in winter than in summer. Many a motorist may be entering the winter with one or more bulbs burned out. A complete new set of bulbs will mean a sale about double that of the average gasoline sale.

Windshield Swipes—Here is a small item that can be installed in about one minute, yet the profit on one good swipe is about as large as that on five gallons of gasoline. It is necessary to have firm rubber in the blade to brush aside snow and sleet. Get you station men in the habit of looking over the swipes, particularly on rainy fall days.



Fender Straightening

Tow Chains, Cables or Ropes

TIRES, tubes and batteries may be handled by some stations of this class but more about these major articles will be said under the one-stop station classification. Flashlights should find a ready market because of the shorter days and longer nights.

The One-Stop Service Type

Automobile services and goods which these stations can sell are almost limitless. Services which may be performed if equipment permits, include:

Tire repair.

Top Dressing

Battery testing, repair and charging.

Brake testing, relining and adjusting.

Car washing, polishing and waxing.

Wheel aligning.

Brake Testing

Engine and chassis cleaning.

Top dressing.

Radiator cleaning and leak-proofing.

Hose replacement.

Fan belt replacement.

Fender straightening and touching up.

Battery and ignition system cable replacement.

Light adjustment and bulb replacement.

Clean fuel lines, pump and filter.

Replace detachable radiator shutter.

Repair and connect heaters.

Merchandise in line with winter conditioning and which may be handled in addition to the lines handled at the smaller stations include:

Tires and tubes.

Batteries.

Oil filters.

Fan belts.

Car heaters.

Radiator shutters for low-priced cars.

Lamp lenses for the more numerous cars.

A more thorough job of conditioning the cooling system for winter driving probably can be done at one-stop stations than at the regular filling stations. The system should be drained and flushed with water to remove loose scale and rust. Then it should be redrained and a chemical solution added to loosen or dissolve all scale and rust in the system. The engine should be run hot for about 15 minutes. Then the system should be drained by disconnecting lower hose. The system should be flushed again by forcing water backward through the system: that is, from the bottom of the radiator upward and back through the engine block.

Air may be introduced with the water streams but the pressure must not be great or radiator cells may be ruptured. It is better, radiator men say, to inject the air intermittently.

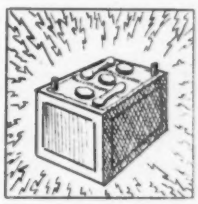
After all rust, scale and sludge has been washed from the system the hose should be inspected. If it is flabby, the inner rubber has peeled off the fabric. If the outer covering is cracked and scaly the hose should be replaced. If the hose is enlarged it is probable that it will not last through a winter and new hose should be installed.

Three sizes of hose—1¼, 1½, and 1¾ inches in diameter—will cover the requirements of a majority of the passenger cars on the road today. Eight additional sizes will give complete coverage but it is not necessary to carry much stock of these eight sizes, which are: 1 5/16. 1 7/16. 1 9/16. 1 5/8, 1 11/16, 2, 2 1/8, and 2 1/4-inch is tightly in place.

In using a chemical solution in cleaning great care must be taken to see that not a drop of the solution splashes on the hood finish. These solutions remove the finish. Cover the hood with canvas or rubberized sheet. Be sure the radiator cap is tightly in place.

Numerous cleaning commercial compounds are on the market. These or a solution of about one-half pound of sal soda to one gallon of water will do the job.

Cleaning often reveals small leaks in the radiator. These may be closed with any of several leak-proofing liquids. A large leak may require soldering. Then the car owner should be directed to a radiator service shop if the one-stop station is not equipped for major radiator repairs.



Batteries

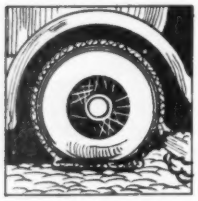
POLISHING and waxing offer a companion service to the laundry. Polishing removes the film of traffic dirt and waxing preserves the brightened finish. Waxing also will prevent corrosion at any porous points in the finish and prevent rusting under the finish which is not uncommon in places where salt is used on the roads in winter. The car owner should be sold

Anti-Freeze Solution Chart

Capacities of Cooling Systems in Quarts—Get Capacity of Customer's Car from Passenger Car Chart

Cooling System Capacities ☞	8	9	10	11	12	13	14	15	16	17	18	20	22	24	26	28	30	32
At These Temperatures Use Quarts of 188 Proof Denatured Alcohol Specified Below																		
30° Above Zero	½	½	½	½	½	½	¾	¾	¾	¾	¾	1	1	1	1¼	1¼	1½	1½
20° Above Zero	1¾	2	2¼	2½	2½	2¾	3	3¼	3½	3¾	3¾	4¼	4¾	5¼	5½	6	6½	6¾
10° Above Zero	2½	2¾	3	3½	3¾	4	4¼	4½	5	5¼	5½	6	6¾	7½	8	8½	9	9¾
Zero	3¼	3½	4	4¼	4¾	5	5½	5¾	6¼	6½	7	7¾	8½	9¼	10	10¾	11½	12¼
10° Below Zero	3½	4	4½	4¾	5¼	5¾	6¼	6½	7	7½	7¾	8¾	9½	10½	11¼	12¼	13	13¾
20° Below Zero	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16
30° Below Zero	4¾	5¼	6	6½	7¼	7¾	8¼	9	9½	10¼	10¾	12	13	14¼	15½	16¾	17¾	19
At These Temperatures Use Quarts of G. P. A. Glycerine Specified Below																		
10° Above Zero	4¼	4⅔	5¼	5⅔	6¼	6⅔	7¼	7¾	8¼	8¾	9¼	10¼	11⅓	12½	13¾	14½	15½	16½
Zero	5¼	5¾	6½	7	7⅔	8⅓	9	9⅔	10¼	11	11½	12¾	14	15¼	16½	17¾	19	20¼
10° Below Zero	6	6¾	7½	8⅛	9	9¾	10½	11⅓	12	12¾	13⅔	15¼	16⅔	18	19½	21	22⅔	24
20° Below Zero	6¾	7⅔	8½	9⅓	10¼	11	12	12¾	13⅔	14½	15⅓	17	18⅔	20½	22	24	25½	27¼
30° Below Zero	Use Full Strength																	
At These Temperatures Use Quarts of Ethylene Glycol (Prestone) Specified Below																		
10° Above Zero	2	..	4	..	4	..	4	..	4	..	6	6	6	6	8	8	8	8
Zero	4	..	4	..	4	..	6	..	6	..	6	8	8	8	10	10	10	10
10° Below Zero	4	..	4	..	6	..	6	..	6	..	8	8	10	10	10	12	12	12
20° Below Zero	4	..	6	..	6	..	6	..	8	..	8	10	10	12	12	12	14	14
30° Below Zero	4	..	6	..	6	..	8	..	8	..	10	10	12	12	14	14	16	16

a top dressing with a polishing and waxing job. Tell him top dressing may save him a top replacement because winter is hard on top fabric. Don't use a dressing that dries quickly; it shrinks the fabric.



Tire Repairing

Cleaning the chassis and engine may be done in the laundry or a separate department. This work should precede washing of the car. Kerosine or distillate may be used to remove the grime. A warm water spray will remove excess oil left on the chassis. Be sure no oil remains on the wiring.

All cleaning work in which water is used should be followed by a complete lubrication job.

It is possible to set a flat price on the cleaning and lubrication work complete and offer this service as a station special for a week or two during the fall.

Worn or oil soaked fan belts should be replaced. Inquiry might be made about whether a new oil filter cartridge is needed.

In adjusting lights and replacing bulbs, the connections between the wiring and the lamps should be checked and ill fitting connections replaced. Many a "dead" headlight is due to a poor connection. A connection that causes a lamp to flicker may cause the bulb to burn out more quickly than many hours of ordinary service. Tell your customer this.

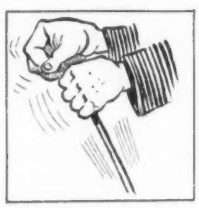
The battery man at the one-stop station can look after this electrical work. He might also check the ignition cables and sell replacements if they have been in service a long time and show signs of deterioration.

Batteries should be checked. Much recharging business can be obtained by showing the customer his battery is weak and he may have trouble any cold morning. Often it is unnecessary to remove the battery from the car; a check may be made with a hydrometer. When some fundamental defect is indicated it may be necessary to use a testing machine.

It is a waste of the customer's money to replace a "shot" cell. With batteries at their present low prices it is economy to buy a new one. Sell him one. Check of the cables may mean an additional sale.

Good brakes in most emergencies are far better than a large insurance policy. And good brakes can be had only with good linings. If your customer's brakes are worn and lose adjustment quickly, recommend new linings. It is essential to safe driving that brakes act smoothly and evenly on wet and icy pavements. After all adjustments give the brakes a road test before you turn the car over to the owner.

Don't forget that the best acting brake is only partly effective with worn tires. The wheels may be locked but the car won't stop on wet and icy pavements if the treads are smooth. Convince your customer that sharp new treads mean safety and secureness for him.



Transmission

With new casings sell new tubes. It means full satisfaction to the car owner.

Misaligned wheels mean shimmies and the loss of thousands of miles of tire wear. Check of the alignment may bring you a profitable servicing job.

It is possible for a one-stop station to keep one or two men busy in the fall and early winter selling and installing car heaters and radiator shutters. Heaters and shutters held over from a previous winter also may be replaced, with a charge for the time required to make the installation.

Arrest Royalty Men

TULSA, Sept. 27.—On complaint of postal inspectors, Ben. F. Fields and F. H. McIntyre were arrested in Tulsa, Sept. 26, on the charge of using mails to defraud. They were doing business as the Anglo-American Royalties Corp.

An official of the Mid-Continent Royalty Owners Association asserted today that the association had assisted in procuring the evidence of alleged stock swindling. The company purported to own much producing royalty when, it is said, most of it was the rankest of wildcat stuff. It is also said that the concern represented itself to be affiliated with the Dutch-Shell interests.

Sinclair Refinery Head Dead at New York

HOUSTON, Oct. 4.—R. C. Sawyer, refineries manager of the Sinclair Refining Co., New York, was buried in Chicago, Oct. 4, Houston friends were informed.

He died at the age of 55 years in New York, Oct. 1, after an illness that had prevented his active part in company affairs since he was stricken in Houston last November.

Mr. Sawyer was the first superintendent of the Sinclair plant at Houston years ago. He joined the organization after 10 years as night superintendent of the Magnolia Petroleum Co.'s plant at Beaumont. At one time he was a Washington newspaper man.

Texas Pacific to Build Plant at Temple

HOUSTON, Oct. 6.—Contemplated construction of a 2000-barrel combination skimming and cracking plant refinery at Temple, Bell county, by Texas Pacific Coal & Oil Co., Fort Worth, is confirmed by President Edgar J. Marston. The plant will be used to supply the company's central Texas distributing requirements for gasoline and fuel will be marketed to local industries. Deal was closed this week with the Temple Chamber of Commerce for a plant site.

The new refinery will be on the Santa Fe railroad and adjacent to two trunk pipelines, which may be utilized for crude oil deliveries.

THE TREND OF THE TIMES

By David Lawrence

Published in the Petroleum Industry Exclusively by NATIONAL PETROLEUM NEWS

DAVID LAWRENCE, author of the accompanying article, is one of the most well informed newspaper men writing today. For many years a Washington correspondent and now editor of the United States Daily he has become an authority on governmental activities and their relation to business. He has had close contact with the White House in this and previous administrations. Mr. Lawrence's radio broadcasts now have a national following.

NATIONAL PETROLEUM NEWS has arranged with Mr. Lawrence to publish once or twice a month a discussion of "The Trend of the Times." These articles will not appear in any other oil trade paper.—Editor.

NEARLY a year has passed since the stock market crash. What have business men learned in the interim? First, that the disturbance was no superficial squall, but a fundamental readjustment of currents and tides; second, that the way back to equilibrium lies in the restoration, if not the reorganization, of basic things like the agricultural and automotive industries.

Assuming that every business depression has its psychological factors which retard a return to normal, there are two things which stand out as having slowed down the wheels of progress. One is the diminished purchasing power of the masses, due to unemployment on the part of millions of our citizens; and second, the failure of production and consumption to maintain a balanced relationship to each other.

Business men everywhere recognize now that efficiency never was more compelling and that the difference between essential and non-essential services in America is becoming more and more pronounced every day. To put it another way, the costs of doing business, the costs of production, the costs of selling, the costs of planning and the costs of distribution and, lastly, the costs of management, as a whole, now are undergoing minute scrutiny.

One of the biggest items in the cost of doing business in America today has been the cost of money. Credit operations are not only the cornerstone of expansion but the very backbone of every-day transactions. Installment buying has proved economically sound throughout the present depression. The big financial turnover of our large corporations has been made possible by popular ownership of securities. Progressive capital operations are feasible when the Federal Reserve System keeps currency flexible and money at work, thus permitting America to finance itself at the lowest rates of interest in generations.

Readjustment takes time. Early in 1930 bankers did not buy bonds because they still had their eyes on the call money market or because they felt the bond market would drop again and leave them with losses on their investments. Now, toward the end of 1930, bankers wish they had bought bonds earlier in the year so as to have maintained a better average throughout the year for their idle funds.

With the return of the bond market, money is put in circulation once more, not only in the companies that need extra capital for efficient operation, but with those who desire to refinance old loans at lower rates of interest—again cutting down the cost of money.

Next comes the cost of selling. Wasteful methods are not discerned in times of prosperity. In an era of economy, selling becomes efficient. The motor industry, for example, has waited for the prospect to come to the show window—the work of the individual salesman has never been extensively developed. And, yet, what product selling at a unit of more than fifty dollars depends upon the prospect to come to the store? Ways, for instance, of finding out the mechanical inadequacy of old cars and other scientific methods of getting a line on the replacement market suggests the selling job that the motor industry has to do.

And so it is with agriculture. We are going through a process of reorganization to determine a method of orderly marketing. We may not like what the farm board is doing, but out of its experiments will come a plan to put agriculture on a better basis. The solution is not just around the corner—it takes time.

When consumption and production have been balanced with respect to agriculture, the raw products and by-products that are bought in the agricultural states will move more evenly to that market. There is no practical formula for regaining prosperity except by restoring the health of all the big units in American life, which, summed up, constitute its composite purchasing power.

Government can do many

things to assist in the process of recuperation, but it can not prescribe the primary remedy. That comes from within—from reorganization and readjustment. The government is aiding in many ways. It is trying to put money to work through the Federal Reserve System. It is encouraging the distribution of capital to enable the farmer to finance himself over bad years. It is not going to increase taxation.

The corporation tax in effect at present will not be raised. The federal government could even have a slight deficit without raising taxes, for all that is necessary is an amendment to the law with respect to the sinking fund on war debts. This provides a cushion. The United States is far ahead of schedule in sinking-fund payments on the public debt, and it could eliminate the $250,000,000 fund in a bad year without disturbing credit in government securities.

Taxation, however, is not entirely a federal problem. Forty legislatures will meet next winter; 19 states have income tax laws already; 12 others are considering them. In many instances where the power to levy income taxes has already been prescribed by state constitutions, there is much discussion as to how the burden shall be distributed. Real estate is clamoring for relief. More taxes for corporations and businesses, particularly the large units, is the suggested alternative. Trade associations are on the alert in opposition to new burdens.

The horizon of business has some clouds on it, but at the end of more than a year of depression, there is no doubt that the facts of the problem are clearly outlined. This means that the challenge to all business, large and small, to organize efficiently for continued profit has been indelibly written in the management counsels of the nation. And when the major businesses have translated present plans into action—some time in the next 12 months, the beginning of a new period of economic balance will come. And out of it will emerge not necessarily an unprecedented expansion but an efficient prosperity.

Oil Well Supply Traffic Men Push Part Unloading Plan

REPORTS on freight rate classification changes, stop-off privileges, and sidetrack and lease agreements affecting railroad shipments of oil well supplies, will be heard at the coming convention of the Oil & Gas Well Supply Traffic Association. The convention will be at the Palmer House, Chicago, Oct. 21 and 22.

Among the most important discussions to take place will be the one by the rate committee of the association, which will report on the contemplated establishment by the southwestern lines of a stop-off privilege to partly unload or to complete loading in transit of oil well outfits and supplies moving in carloads at points in the southwest.

If this arrangement should be approved by the southwestern lines, V. E. Milsark, traffic manager, The Parkersburg Rig & Reel Co., and secretary of the association, says it will contribute considerably to solving many of the problems of distribution of oil well supply manufacturers, in that consignments to two or more inactive warehouses may be consolidated in a carload shipment and the car stopped at several of the points for part unloading, at through carload rate, with a nominal charge for the stop-off service.

Elimination of undesirable and objectionable clauses in sidetrack and lease agreements and conditions governing the installation and maintenance of these sidetracks, is another important subject to be reported upon by the sidetrack and lease committee of the association.

Many freight rate classification changes, which may vitally affect shippers of oil well supplies in all parts of the country, will be discussed.

Reports will be made by these speakers: T. L. Moriarity, traffic manager, Continental Supply Co., St. Louis, president of the association; E. W. Wilson, traffic manager, Frick-Reid Supply Corp., Tulsa, treasurer; and V. E. Milsark.

Reports of the following committees will be read and discussed: classification committee report, by W. W. Stumph; rate committee, M. A. Keith, traffic manager, International Derrick & Equipment Co., Columbus, O., second vice president of the association; sidetrack and lease committee, E. W. Wilson; special committee on the Consolidated Southwestern Cases, M. A. Keith; entertainment committee, Mr. Moriarity; and membership committee, R. S. Seibert.

George White

Candidate on the Democratic ticket for governor of Ohio, is an Independent producer in southern Ohio. After graduation from college he worked in the Pennsylvania fields, and later, with money from his stake in the Klondike, started as an Independent producer in southern Ohio at Woodsfield and Marietta. Later as a member of the Ohio legislature he put through a bill making it compulsory for all fees collected by state oil inspectors to be turned into the state treasury

Text of Oklahoma Proration Decision

THE text of the opinion of the three federal judges in the Champlin Refining Co. proration injunction case, is published below, the opinion being given orally by Circuit Judge John H. Cotteral, in a special three-judge court sitting in Oklahoma City.

THE importance of this hearing calls for a prompt decision, and for that reason we deem it preferable to briefly announce our views and conclusions, and not take the time necessary to prepare a formal opinion.

The plaintiff is engaged in producing and refining crude oil. It has two large producing wells in the Oklahoma City field and nine in the Seminole field, two of the main fields in which proration of oil output has been ordered. It is equipped with a pipeline, tank cars and a refinery, and markets the refined product through wholesale and retail stations.

The plaintiff has brought this suit against the state corporation commission for an injunction against the enforcement of certain proration orders, which limit the production of oil in the fields named, and others. The present hearing arises on an application for a temporary injunction.

Three orders are questioned. The first was issued on June 30, 1930, to remain in force until September 30, 1930, and will expire today. The second is dated July 24, 1930, and expired August 31, last. The third, amendatory of the first, bears date August 30, last, and expires this date. The plaintiff amended its bill at the hearing by an averment which is concededly true that the commission intends at once to renew the last order for ten days and thereafter to grant other orders with its like force and effect, pursuant to the same policy of enforcing proration.

The proration orders rest for their authority on sections 7954 to 7963, Comp. Okl. Stat. 1921. They are primarily designed to prevent waste of crude oil, provide for an appeal to the state supreme court from an order made, but without supersedeas unless ordered by the court, and a disobedience of an order is made punishable as a contempt and also as a misdemeanor; and, besides, a receivership is authorized at the suit of the attorney general or county attorney, extending to the production and marketing of oil.

Sec. 7594 prohibits waste of oil. Sec. 7955 prohibits the taking of oil when there is not a market at the well equivalent to the average value of the products less cost of refining and a reasonable profit, and so forth. Sec. 7956 reads as follows:

> "Waste defined—protection. That the term "waste" as used herein, in addition to its ordinary meaning, shall include economic waste, underground waste, surface waste, and waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities, or reasonable market demands. The corporation commission shall have authority to make rules and regulations for the prevention of such wastes, and for the protection of all fresh water strata, and oil and gas bearing strata, encountered in any well drilled for oil."

Sec. 7957 provides that if full production can only be taken with waste then it is subject to proration under orders of the commission.

It is conceded Section 7955 in invalid, but the commission does not seek to uphold its orders upon it. The foundation of the orders rest solely on Sections 7956 and 7957.

The plaintiff claims it can produce oil from its wells and refine and market its product without waste, and it challenges the validity of the statute and the orders as impairing the obligations of its drilling contracts, takes its property without due process, and denies it the equal protection of the laws, in violation of the federal constitution.

The entire state policy of proration of oil output is at stake. With the wisdom of it, this court has no concern. Our inquiry is only whether the statutes and the orders are constitutionally valid.

The last section of the statute provides that, if any part, clause or sentence is invalid the rest is not to be affected. With this reservation added the rule is that any valid portion of the enactment must be sustained. Williams v. Standard Oil Co., 278 U. S. 235.

It has been authoritatively decided that it is competent state legislation to prevent waste of gas or oil, both to *protect producers from a common pool and to conserve the resources of the state.* It is a valid exercise of the police power. Ohio Oil Co. v. Indiana, 177 U. S. 190; Lindsley v. Natural Carbonic Gas Co., 220 U. S. 61; Walls v. Midland, 254 U. S. 300. The statutes must therefore be sustained in prohibiting waste of oil.

The plaintiff claims as a serious ground of complaint that, as it can produce oil from its wells without waste and has a market for its product, the statutes and orders are discriminatory and void. The cases just cited are an answer. If the proration of oil output is within the police power of the state, loss of private property interests may not be taken into account and afford no reason for striking down a law enacted for that purpose. Such loss must yield for the common good of the public sought to be advanced in the exercise of the police power of the state.

The proration contained in the orders of the commission recite that a purpose is to prevent waste, as defined by the statute. There are findings that it would occur in different ways;

for example, absence of market and of transportation facilities, requiring the oil to go into earthern storage and increase prior storage, which spell deterioration and loss. Some of the findings are probably insufficient to sustain the proration orders. But an order of an administrative commission when based on law has the force of law, and the rule is a statute to be upheld when supported by any possible state of facts in the legislative mind. Lindsley v. Natural Carbonic Gas Co., 220 U. S. 61. The proration orders are in general valid because of a sufficient fact to sustain them; to-wit, the prevention of waste.

The orders are assailed because they impose varying limitations on the production of oil in the different fields, and a discrimination is the result. The ground for the differences is the different extent of the market and the fields. We regard this as a sufficient reason for the percentages of proration, because waste results in different proportions due to the extent of the markets.

The plaintiff complains of the orders as a price-fixing device to maintain the price of oil. Concededly, they could not be sustained if that were the purpose. It is not competent for a legislative body or a commission to fix prices of commodities or services, apart from instances where a business is not affected with a public interest. Williams v. Standard Oil Co., 278 U. S. 235. But the plaintiff has not proved the fact alleged as to the purpose of the orders. Besides, we must assume the purpose was to prevent waste, because, under the rule above stated, the possible facts which sustain a law or order are presumed.

Another ground of complaint is that the corporation commission has in practice committed the enforcement of proration to an umpire and an operators' committee, selected from the agents of the major oil companies, chief parties interested in proration. This we regard as a mere matter of policy, within the discretion of the commission. At least, we think so, as no fraud or unfair conduct is traced to these parties. As we have said before, matters of policy are left to the commission.

It is complained that loss accrues to the plaintiff in the impairment of its wells from salt water, drainage by other producers from common pools and other causes when its wells are not in full operation. Assuming the facts to be alleged, they are other instances of injury to private holdings due to the exercise of the police power of the state, and it is not a tenable ground for relief. (See cases above cited from the Supreme Court of the United States.)

The plaintiff claims the orders were not supported by evidence; for example, as to the markets for oil, the orders were prepared by plaintiff's competitors, and so forth. There is no proof of either charge, and they cannot be entertained for that reason. With regard to the orders, we think it quite immaterial who prepared these orders as long as the commission issued them.

The public interest is said to be prejudiced in the higher prices of oil products due to the proration, and the fact that many employees of plaintiff are thrown out of employment. The public interest is promoted in two ways, by competition in prices and the conservation of the oil industry in the state. Both are matters of policy addressed to the state in enacting laws and in issuing its administrative orders. But with matters of policy, we are, as heretofore stated, not concerned. The loss of employment is also a matter of private loss that does not go to the validity of a law in the exercise of the police power and must yield to the exigencies to be cared for by the state in its enactment and administrative orders.

Discrimination is charged in not applying proration limits to the others and lesser wells in the state. Those subjected to proration are the flush and semi-flush pools. The commission found certain facts as the controlling reasons for excluding proration of the other wells. We think they are sufficient. One was that there was inseparable difficulty in doing so without discrimination among them. Other reasons were the negligible effect of it, the light output of those wells which could not stand the expense, the resulting abandonment of the wells, and so forth. We think this discrimination was not substantial and it is not sufficient to invalidate the proration in the main pools of the state.

We find no sufficient ground upon which the application for a temporary injunction can be sustained. It is therefore denied. Exceptions are allowed to the plaintiff.

TORONTO—The drilling of its initial well in the Turner Valley field of Alberta was to have begun shortly by the Richfield Oil Co. The location is on a 10 acre tract about 600 feet north of Spooner No. 1 well.

Henry L. Phillips

Henry Phillips Remains With Sinclair

TULSA, Oct. 4.—Henry L. Phillips, whose resignation as president of the Sinclair Crude Oil Purchasing Co. was announced last week, will remain with the Sinclair Consolidated Oil Corp. in an executive capacity not yet announced.

Mr. Phillips has been identified with the Sinclair organization for years. He came into the company's legal department, but moved into the operating end a little later. He was president of the crude oil buying company for more than eight years. He will continue to live in Tulsa.

Safety Men Boast of Long Records As Prizes Are Awarded

PITTSBURGH, Oct. 1

SEVERAL hundred oil men gathered today in a room under the roof of a hotel in Pittsburgh for the climax of a three day's convention program. For six months these men sought safety in the operation of marketing units, marine fleets, refineries, pipelines, and oil fields. Today those units making the best records received their awards—trophies and certificates.

Safety was the one dominant topic, even at the lunch table, for this was a meeting of the Petroleum Division of the National Safety Council. Addresses on safety were given on Tuesday and Wednesday morning, and another session is scheduled for Thursday morning, but the men took their work to the lunch table. At the other end of the state another baseball world series was starting about the time trophies were being presented, but sport was small table talk today.

With the luncheon finished, tables were removed, and the men gathered at the speakers' platform. C. E. Pettibone, president of the National Safety Council, honored the oil men by attending their luncheon. He was introduced by R. E. Donovan, Standard Oil Co. of California, the new general chairman of the division.

Awarding the trophies and certificates was the work of H. N. Blakeslee, petroleum representative of the Council. As he read the record of the winners a representative for that organization stepped forward to receive congratulations from President Pettibone, and to make a short speech.

These were safety men, or plant superintendents, accepting the awards, but the men back home received their share of the honor they won. As each representative faced the audience he voiced the appreciation of the men back on the job.

Safety to these men, and those in the operating units, is not a matter of a work day, a week, or a month.

Before many trophies were passed out some boasting came to the surface about plants that have operated much longer than a year without a lost-time accident. Here are a few of the safety boasts:

"If the Laramie refinery of the Standard Oil Co. of Indiana has a clean record for October it will have operated a full year without a lost-time accident."

"The San Antonio refinery of Humble Oil & Refining Co. was built a little over two years ago and never has had a lost-time

(*Continued on Page* 45)

Winners in the 1930 Petroleum Safety Contest of the National Safety Council

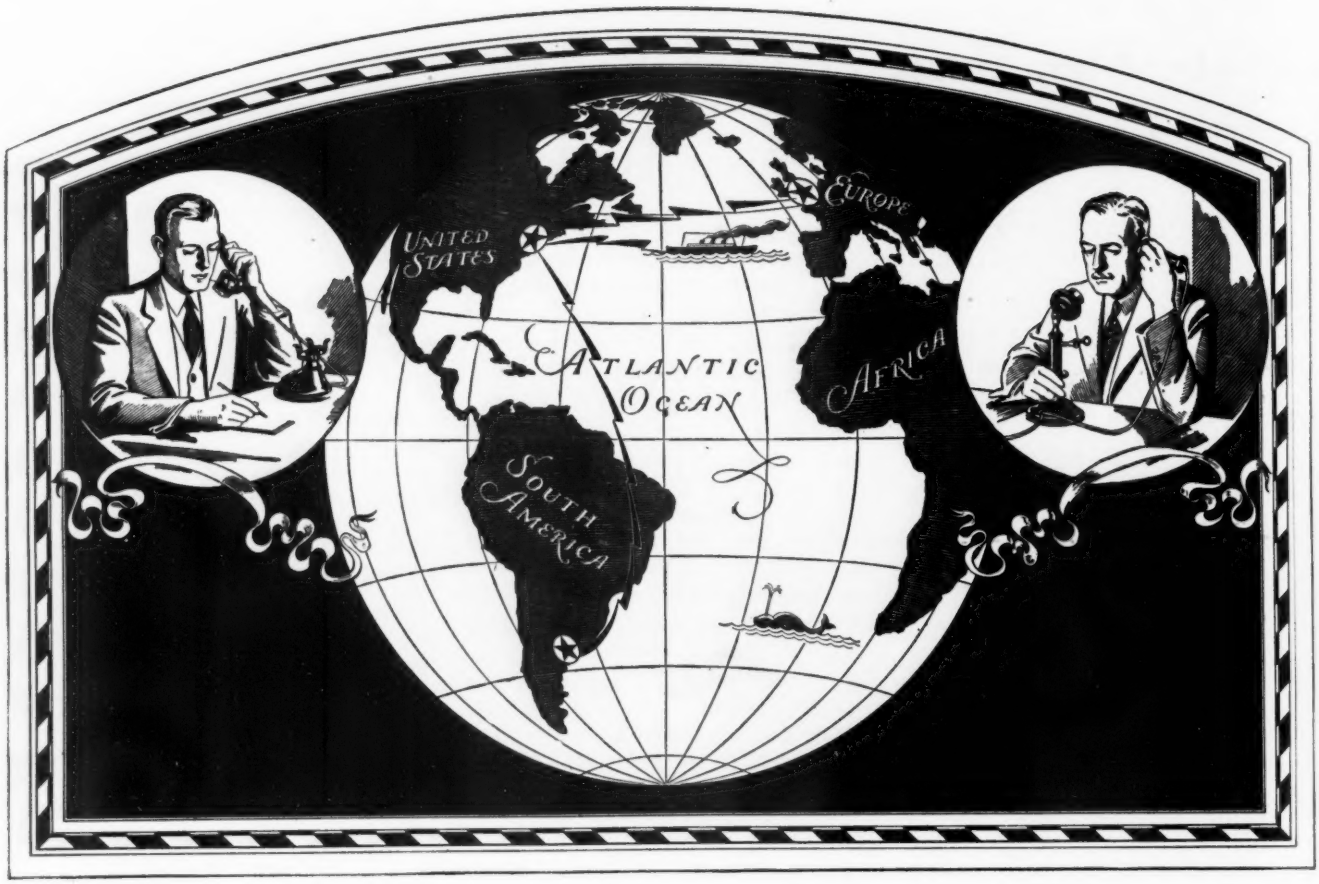
Company	Division	Award	Manhours worked without accident
Manufacturing, Class A			
Standard of Indiana	Casper refinery	Trophy	1,410,127
Shell Petroleum Corp.	Norco refinery	Certificate	1,192,025
Vacuum Oil Co.	Bayonne works	Certificate	648,213
Manufacturing, Class B			
Humble Oil & Refg. Co.	Ingleside refinery	Trophy	547,997
Barnsdall Refineries		Certificate	268,176
Vacuum Oil Co.	Rochester works	Certificate	203,176
Stand. of New Jersey	Camden works	Certificate	196,293
Panhandle Refg. Co.		Certificate	109,858
Conewango Refg. Co.		Certificate	101,360
Standard of Calif.	Bakersfield	Certificate	95,264
Standard of Indiana	Laramie refinery	Certificate	89,711
The Texas Co.	Pryse works	Certificate	88,489
Barnsdall Refineries	Wichita refinery	Certificate	82,646
Humble Oil & Refg. Co.	Neches, Chilton, San Antonio	Certificate	68,938
The Texas Co.	Cody refinery	Certificate	59,443
The Texas Co.	El Paso refinery	Certificate	50,614
Associated Oil Co.	Watson refinery	Certificate	28,104
Marketing, Class A			
Standard of Indiana	Kansas City, Mo.	Trophy	1,226,511
Standard of Indiana	Green Bay, Wis.	Certificate	889,758
Standard of Indiana	LaCrosse, Wis.	Certificate	869,931
Marketing, Class B			
Standard of Indiana	Huron, S. D.	Trophy	546,705
General Pet. Corp.	Southern Calif.	Certificate	381,960
Shell Petroleum Corp.	Western	Certificate	289,950
General Pet. Corp.	Arizona	Certificate	27,736
Producing, Class A			
Midwest Refining Co.		Trophy	2.47*
Ohio Oil Co.	Arkansas	Trophy	95,553
Ohio Oil Co.	Indiana	Certificate	66,834
Natural Gas-Gasoline, Class A			
Midwest Refining Co.	Salt Creek	Trophy	645,712**
Natural Gas-Gasoline, Class B			
Hope Construction & Refg. Co.		Trophy	175,712
Ohio Oil Co.	Illinois	Certificate	100,899
Ohio Oil Co.	Rocky Mountain	Certificate	85,004
Ohio Oil Co.	Texas	Certificate	45,828
Texas Pacific Coal & Oil Co.		Certificate	44,173
Ohio Oil Co.	Louisiana	Certificate	41,742
Shell Petroleum Corp.	Brown County	Certificate	17,129
Pipeline, Class A			
Gulf Oil Corp.	Lufkin	Trophy	3.15*
Pipeline, Class B			
General Pet. Corp.	Southern	Trophy	172,560
Shell Petroleum Corp.	Illinois & Indiana	Certificate	154,673
Midwest Refining Co.		Certificate	149,536
Associated Oil Co.	Southern Calif.	Certificate	138,464
General Pet. Corp.	Mountain	Certificate	115,216
General Pet. Corp.	Northern	Certificate	111,200
Stand. of New Jersey	Inter-Refinery	Certificate	61,600
Marine			
Atlantic Refining Co.		Trophy	15.04*

**New world's record.

*Indicates accident frequency rate, manhours indicates units went through contest without any accidents.

Class A in manufacturing, marketing and producing departments include units working 100,000 manhours or more a month, 50,000 manhours monthly in natural gas-gasoline division, and 30,000 manhours or more in pipeline.

Class B in manufacturing, marketing and producing departments include units working less than 100,000 manhours a month, less than 50,000 manhours in natural gas-gasoline, and less than 30,000 in pipeline.



Linking the continents with speech

TODAY, through the Bell System's radio-telephone service, you can talk directly from your home or office telephone to most of the countries of Europe, to Argentina, Chile and the city of Montevideo, Uruguay, or to several great transatlantic liners while at sea.

Before long, your telephone horizon will be extended to Hawaii and other islands in the Pacific, to the mainland of Asia and to additional countries in Europe and South America. Bell System engineers are steadily enlarging the scope of voice-to-voice contact, bringing new continents, new nations, new cities and hamlets within reach of your telephone.

Talking to Europe, to South America, to ships at sea, is almost as satisfactory as an across-the-desk conference. You can transact business and exchange personal messages with the ease and clearness of an ordinary long distance call. Questions can be settled as they arise.

Recent reductions in charges have lowered the cost of a three-minute conversation between New York and London, and New York and Buenos Aires, to $30. A slight additional charge is made for calls between more distant points.

Transatlantic telephone service has won an important place in international communication. It has brought the factor of *personality* to the daily contacts between the Old World and the New. It is a furtherance of the Bell System's aim: *that you may be able to talk with any one, anywhere, at any time.*

A. I. M. E. Discusses Unit Operation As an Economic Necessity

By William F. Lowe
N. P. N. STAFF WRITER

TULSA, Oct. 4

UNIT operation was again the chief topic of discussion of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers in its sectional fall meeting held Oct. 2, 3 in Tulsa. On this occasion, however, it appeared more in the form of practical suggestions than as an idealistic theory.

In the past year much has been done to prove the workability of the idea and many convincing illustrations were presented by proponents of the plan. Not only does it seem to offer solutions for many of the major production problems of the industry, but it points toward more equal rights for individuals coming within its scope.

These facts, combined with a serious discussion of the legal aspects and future possibilities of unit operation were the salient points of the meeting.

In discussing the economic principles of unit operation, Joseph E. Pogue, consulting economist of New York City, pointed to the ruinous effects of the present system of competitive drilling. He said that the system intensifies competition and leads to difficulties in adjusting the supply to market requirements. In consequence, the costs of producing oil are unduly high and place the operators at a disadvantage. There is a growing understanding of the objectionable features and the counter method of unit operation is now receiving widespread consideration. The plant not only offers the means of reducing production costs and eliminating waste, but would gain the economic advantage of a reserve without a drilled-up potential.

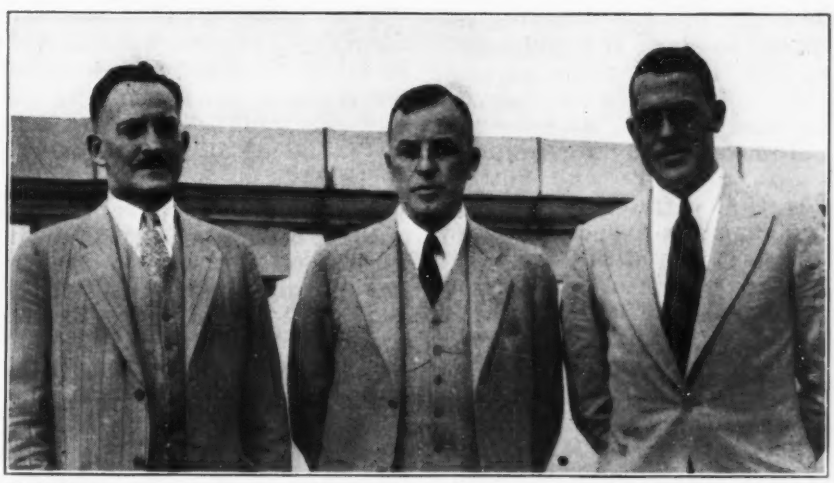
A paper by E. L. Estabrook of the Pan-American Petroleum & Export Co., indicated the growing tendency toward unit operation in foreign fields. Discussing

Joseph B. Umpleby, president of the Goldelline Oil Corp., of Oklahoma City, past chairman of the Petroleum Division of the A.I.M.E.

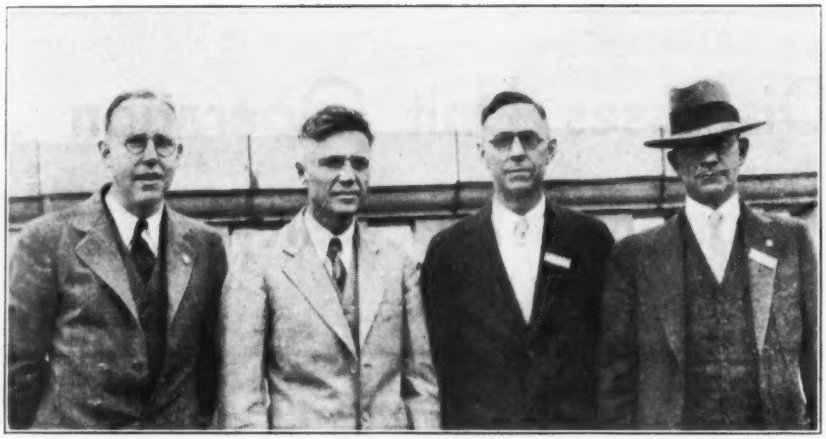
the unit proposal for the Kettleman Hills field of California, Robert C. Patterson, supervisor of oil and gas leasing operations, Pacific district, presented the co-operative features under which it will function. Lease holders are required to give title to all oil, gas, gasoline, and other hydrocarbon substances, immediately on production, to an association. The latter will then have the right to dispose of such products provided that it shall first offer to each member his pro rata share thereof. Division of all production is to be proportionate to membership interest.

The plan has not yet gone into effect but Mr. Patterson indicates that there is every possibility that it will in the near future. So great are the potentialities of the Kettleman Hills that the unit plan seems the only logical method of development.

In the states of Texas and New Mexico, the need for, and the favorable progress of, unit operation were emphasized in four papers presented at the Thursday session. David Donoghue, technical advisor for the Texas Proration Committee,



J. S. Ross, gas engineer of the Southern States Co., Inc., Fort Worth; C. E. Beecher, petroleum engineer of the Empire Oil & Refining Co., Bartlesville; and Don Knowlton, petroleum engineer of the Phillips Petroleum Co., also of Bartlesville



Fred Wood, petroleum engineer Standard of Indiana at Chicago; H. B. Hill, district supervising engineer of the Dallas office, U. S. Bureau of Mines; Lee S. Miller gas engineer, Carter Oil Co., Tulsa and S. F. Shaw, consulting engineer, Carter Oil Co., Tulsa

Fort Worth, in his paper on proration in that state, indicated that most of the difficulties concerned with enforcement were due to waste. He advocated the passage of laws to prohibit such waste and to base the production of oil on a gas-oil ratio.

The co-operative operation of the Cook pool in Shackleford county, though not under such a strict plan as suggested for the Kettleman Hills area, is working to advantage of most of the participating operators. A paper on this subject was prepared by Mr. Roeser of the Roeser-Pendleton Co., Fort Worth, and presented in summary form by G. P. Crutchfield field engineer for that company.

Beyond question, the greatest argument for unit operation presented at the meeting was the account of operation in the Yates pool of Pecos county. Harvey Hardison, in discussing proration in this wonder pool clearly brought out the valuable results of the plan. It is quite evident that the very life of production in this area depends on some such scheme. So extremely porous is the pay horizon, and so close the edge and bottom water, that without a producing agreement the expected record of the field would fall far short of present estimates. This is not a unit operation in the sense of joint management, but co-operative work has characterized it from beginning.

Some of the statements made by the confreres of Mr. Hardison concerning the potentialities of the Yates pool, seemed so extravagant, that they were challenged by several members.

Henry L. Doherty, head of the Cities Service Co., who seemed to enjoy the meeting. His headquarters for quiet talks was in the sun on the roof of the Mayo Hotel

To all of these John R. Suman of the Humble Oil & Refining Co., was able to offer sufficient proof of claims to quiet the disturbances.

Henry L. Doherty, present as a guest of the society, in an informal talk expressed the belief that unit operation was just around the corner. He stressed the need for the cutting of waste regardless of the system of operation. Especially did Mr. Doherty feel that such action was necessary in regard to the amount of gas that is so universally disregarded. Not only does such waste reduce the ultimate recovery of the oil but its increased value for the market is such that it could sustain many a company after the oil is gone.

Considering the general interest that has been stimulated of late in the validity of the Oklahoma proration laws and their relation to the federal conservation idea, the extemporaneous talks of W. P. Z. German, general counsel for the Skelly Oil Co., and James A. Veasey, general counsel for the Carter Oil Co., were particularly timely.

He cited the cases upon which the U. S. supreme court had ruled and which were used as precedents in deciding the recent Oklahoma City difficulties. "Oil," said Mr. German, "is a migratory natural resource and as such is communal property. Every man has a co-equal right to the oil according to his surface holdings and no individual has a right to use his property to the injury of his neighbor." He pointed out that nature had thus provided a foundation for unit operation and that it was the natural method for the production of a pool.

Mr. Veasey indicated that the principal cause for the failure of unit operation to be more universally employed was due to the lack of understanding among operators concerning the laws governing it. He was quite positive in stating that no new laws were needed to bring about enforcement of such a plan at the present time, if it was the

W. V. Vietti, petroleum engineer of The Texas Co., Fort Worth. Mr. Vietti expressed himself often and he knew whereof he spoke

earnest desire of operators to install the system. The plan could stand on the property laws already existing.

Of the technical papers presented, the one which created the greatest amount of discussion was that of S. F. Shaw of the Carter Oil Co. The title was "Increasing the Ultimate Recovery of Oil." Mr. Shaw intimated that he was about to reverse his opinion that raising the back pressure to lower viscosity always resulted in a lower gas-oil ratio. He said, "The laws governing the filtering effect of mixtures of oil and gas passing through a porous sand medium probably have a far greater effect on the production of oil, under the various conditions that exist in the sand, than the single factor of viscosity as influenced by back pressures. In other words, viscosity is only one factor under existing underground conditions, and probably is a relatively unimportant factor."

"Though back pressures may reduce the viscosity of oil it tends to reduce the velocity of flow through the sand to a point where the gas will not carry with it the maximum load of oil. The method of production tentatively suggested for obtaining the maximum ultimate recovery of oil is to enlarge the filtering area through the oil sand at the bottom of the well —and to reduce back pressures at the sand to the critical differential pressure."

The subject of oil-gas ratios having been introduced by this paper, a prolonged discussion of their importance resulted. J. R. McWilliams, chief engineer of the Skelly Oil Co., agreed with the speaker that all is not yet known about gas-oil ratios. He said that too little attention had been paid to pressures as a factor in the control of these ratios, and advocated the holding in of gas volume rather than stressing the volume of gas per barrel.

H. H. Power, chief engineer of the Gypsy Oil Co., in presenting a paper on the "Effect of Proration on the Potential Decline and Ultimate Production of Oil Wells," of which C. H. Pishny of the Amerada Petroleum Corp. was co-author, gave voice to some ideas that are thought provoking. The subject discussed has long been a debatable question among some operators, and opinions are somewhat divided.

The above engineers of the Gypsy Oil Co., Tulsa, gave that company a good representation. They are David L. Trax, M. L. Dever, T. H. Rakestraw, T. S. Slavik

Joseph E. Pogue, consulting economist of New York

John R. Suman, vice-president in charge of production, Humble Oil & Refining Co., Fort Worth. He admits that Yates is quite a pool

As brought out by Mr. Power, an opinion depends on the individual experience as well as on the operating conditions. However, it was the belief of the writers that much of the so-called lost production is in reality merely deferred. They conclude "that the flattening of numerous potential production and actual production curves indicates an increase in the ultimate recovery of wells favorably situated on the structure. The ultimate recovery of some wells, especially edge wells, will be decreased."

Other papers that were presented at the meeting were:

Repressuring and Initial Repressuring, by H. C. George, University of Oklahoma, Norman, Okla.

Effect of Edge Water on the Recovery of Oil, by H. H. Wright, Gypsy Oil Co., Tulsa.

Some Principles Governing the Choice of Diameter of Tubing for Oil Wells, by J. Versluys, The Hague, Holland.

Velocity of Flow Through Tubing, by E. L. Davis, The Texas Co., Los Angeles, Calif.

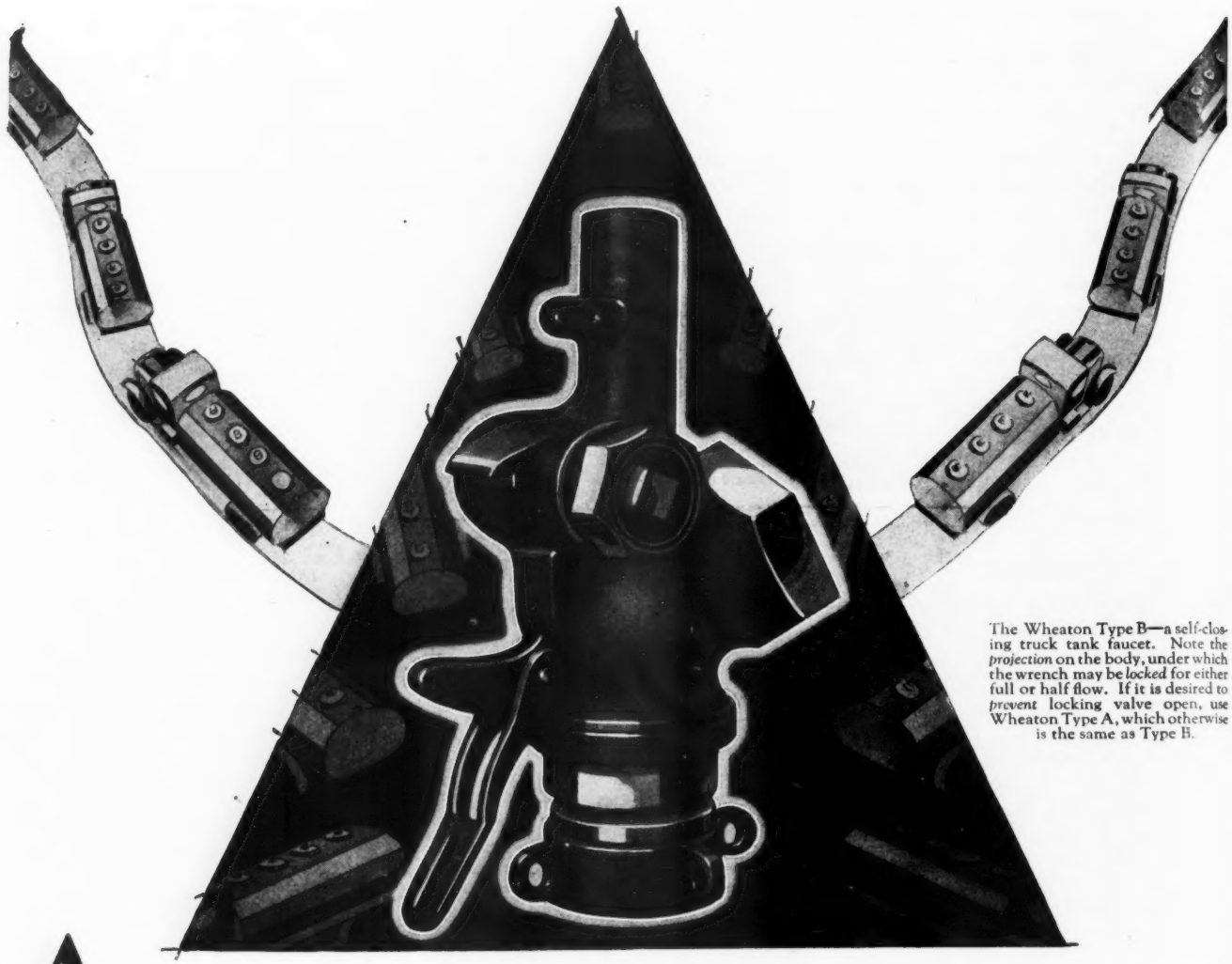
Densities of Oil and Gas Columns from Well Data, by W. V. Vietti, The Texas Co., Fort Worth.

Interpretation of Bottom Hole Pressure Data, by C. V. Sidwell and C. V. Millikan, Amerada Petroleum Corp., Tulsa.

Physical Properties of Rotary Muds, by C. P. Parsons, Halliburton Co., Duncan, Okla.

Properties and Treatment of Rotary Muds, by Hallan N. Marsh, General Petroleum Corp., Los Angeles.

Development of Casing for Deep Oil Wells, by F. W. Bremmer, Spang, Chalfant & Co., Inc., Pittsburgh.



The Wheaton Type B—a self-closing truck tank faucet. Note the *projection* on the body, under which the wrench may be *locked* for either full or half flow. If it is desired to *prevent* locking valve open, use Wheaton Type A, which otherwise is the same as Type B.

America's Greatest Oil Companies are RIGHT!

By their purchases during the last decade and a half, America's greatest oil companies have shown a distinct preference for Wheaton Truck Tank Faucets. In their *continued* selection of Wheaton—after so long an experience—they must be RIGHT! * * * One of the most popular Wheaton Faucets with many of these companies is the Type B, pictured above, made of special analysis bronze—tempered, toughened and tested, and perfectly fitted and finished. * * * Send for a sample of Type B today. Give it your own test. If you are not entirely satisfied, you may return it for credit or refund.

A. W. WHEATON BRASS WORKS
Newark, New Jersey

Empire Brass Mfg. Co., Ltd., London, Ontario, Canadian Manufacturers and Distributors

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

Wildcat Shows in West Kansas and Big Wells in Tatums Pool Feature Week

TULSA, Oct 4

NEARLY everything in the Mid-Continent today revolves about the Oklahoma City pool and the past week's developments generally followed the rule. There were a few wildcat showings in Kansas, the Tatums pool in southern Oklahoma got two more good wells. Oklahoma City operators completed several wells of the size that characterize the north end of the pool, none extended production.

It is apparent that, unless things pick up soon, the drilling list in this major pool will be fairly short by the end of the year. Of the total of 205 drilling operations in the field, 79 are deeper than 6000 feet and near the completion stage. Twenty-two more are drilling between 5000 and 6000 feet. The crop of competions will be heavy over the next three or four weeks.

The pool is in about as congested a condition as any field in recent years. Based upon the last production of the 582 completed wells, including those still taking their 65-day shutdown time after completion, the field has a potential production of more than 3,500,000 barrels daily.

The field produced an average of 115,057 barrels daily over a period ended the morning of Oct. 3. The highest day's production was 128,067 barrels. The number of wells open to production ranged from 55 to 76 and some of them were produced but a fraction of a day. Pipeline runs, however, have not been keeping pace with production and storage throughout the field is getting full. Daily average runs for the week ended Sept. 29 were as follows:

Empire P. L.	23,589
Indian Territory	*5,613
Magnolia	9,429
Oklahoma P. L.	10,650
Prairie P. L.	14,597
Sinclair P. L.	21,708
Shell	234
Tidal	2,619
Capital P. & R.	1,571
Cunard	1,214
Champlin	2,159
	93,383

*(Tank car)

No news of consequence developed from several wildcats in the Oklahoma City district. In southeastern Logan county, 10 miles southeast of Guthrie and upward of 25 miles northeast of the Oklahoma City pool, Prairie Oil & Gas Co. and others' test is in Simpson formation topped at 5645 feet. At last reports it was fishing at 5730 feet, making one bailer of water per hour and no oil showing. The tools were lost in the hole.

The wildcat test of the Sinclair Oil & Gas Co. in Woods county, Okla., caused a little flurry during the week. It had been drilled to total depth of 7278 feet. Discouraged over its prospects, the company plugged back to 6825 feet to test a sand, show it with 30 quarts. The report went around that the hole was standing full of oil. The company said it was full, all right, but of rotary mud and water. Location of the test is the center of the east half of the NE SW of 33-27-16W.

In the Tatums pool, Carter county, southern Oklahoma, two wells were added to swell the flush production of this pool, now in excess of 12,000 barrels. Anderson and others' No. 4 Evans, NE SW of 24-1S-3W had sand at 2284-2343 feet and production of 2500 barrels in 24 hours. Wirt Franklin Petroleum Corp.'s No. 3 Hooks, SE NW NE of the same section, found the shallower pay at 1896-1916 and a 24-hour flow totalled 2092 barrels. In the same section, however, Magnolia Petroleum Co.'s No. 1 Dickerson carries out predictions that this pool will be somewhat irregular. This well, NW NE SE of Sec. 24, is drilling at 3685 feet with nothing showing.

There were a few wildcat showings in Kansas. Prairie Oil & Gas Co. and Gypsy Oil Co.'s joint test in Rush county is some sort of an oil well. Located in the NW SW SW of 5-16S 18W, it found the Oswald lime at 4506 feet and at total depth of 3515 feet oil was standing 1500 feet in the hole. The test is nine miles east of Lacrosse.

Northeast of the Raymond pool Langston et al in the center of the northeast quarter of 34-19S-9W topped Siliceous lime at 3238 feet, set five-inch casing at 3252 feet and at the end of the week the hole was standing awaiting test with 500 feet of oil in it. This is in Rice county. In the southwest corner township of the next county north, Ellsworth, Darby and others in the northwest corner of 25-17S-10W, found gas in the Lansing formation at 2893 feet. It was making two million feet through bradenhead and drilling was proceeding, total depth at the end of the week being 3200 feet.

The principle completion in the Texas Panhandle territory was Holmes et al's No. 3 Quinn, southwest quarter of Sec. 7, Block 9, I. & G. N. Survey, in the Carson county pool north of Skellytown. It was completed in the dolomite pay at 3005-3105 feet, for 580 barrels. It is one of the largest wells to date in this pool, which produces 44 gravity oil.

The big well of Graham et al, No. 1 Sullivan, in Gray county, which flowed wild for several days and caused considerable excitement, was gauged for 6590 barrels in 24 hours. It is in the north half of Sec. 136, Block 3, I. & G. N. Survey. It opens a new pool in the county. In the same county, Midwest Exploration Co. completed a 100 barrel well in the Northwest quarter of Sec. 165, Block 3, I. & N. G. Survey. Pay, dolomite, was found at 3301-3318 feet. The well is notable in that it opens production 1½ miles north and west of the dolomite production west of Pampa.

New Companies Enter Kettleman Hills; Pipeline Outlets Projected

By Jack N. Westsmith

N. P. N. STAFF WRITER

LOS ANGELES, Oct. 3

PLAYA DEL REY continues to be the most active California oil field. It has more than 100 wells drilling and about 80 locations made or rigs building. According to the latest report of the California state oil and gas department, this field had in the past week 18 out of the 25 new wells being drilled in the state and no other field had more than three new wells. There are now 40 producers in the field with five new completions marking the week.

Richfield Oil Company has picked up the Temblor or "Kettleman Hills" formation in its first deep test well at Belridge at a depth of 4962 feet. This discovery extends the Belridge field more than a mile to the northwest and definitely proves the existance of the "Kettleman Hills" zone through the Belridge area. The first and only completion to date, that of the Belridge Oil Co., came in some months ago for 350 barrels of 58 gravity oil from 5086 feet. The well was killed to deepen and now has 688 feet of solid oil sand.

Richfield encountered this zone slightly higher on the structure than the Belridge Oil Co. well and is now drilling at 4980 feet in hard sandstone and shale with a strong gasoline odor and gas pressure so heavy that 100 pounds of mud is required to hold back the gas.

Richfield officials state that this definitely proves its 480 acres in the Belridge field for high gravity oil and also indicates that similar results will be obtained in the Lost Hills Field which lies between Belridge and Kettleman Hills and in which Richfield owns 10,800 acres in fee.

Although Kettleman Hills has had no really important field development during the past week that area has been the center of interest for California oil men. Among the events that have drawn special attention in this district are the gas hearing scheduled to be held at Hanford on Oct. 6 before Judge Strother of the Superior Court, the various pipeline projects now under discussion, and the entrance of new companies into the field.

Completion of Superior Oil Co.'s gusher on what had been considered edge territory, emphasizes the importance of the decision that will be made by Judge Strother. He has urged all parties interested in the district to be prepared to make concessions so that constructive action can be taken when the case finally comes up for adjudication. The situation is complicated by the fact that opponents of the curtailment order are also opposing the unit plan of operation on which the north dome committee has been working.

George F. Getty, Inc., one of the largest independent operators in the state, has announced that it intends to build an eight-inch pipeline from Kettleman Hills to tidewater. This line is to be completed by June 30, 1931, when the Kettleman Hills conservation agreement expires. It is believed to forecast expansion of the company's activities which at present are confined to oil production.

Both Standard Oil Co. and Union Oil Co. at present have pipeline connections from the Kettleman Hills area. Standard has its coast outlet at Estero Bay, and Union's terminal is located near San Luis Obispo. General Petroleum Corp. is reported to have purchased 586 acres at Morro Bay, San Luis Obispo County, and the Shell Oil Co. is said to be looking for a terminal site in the same district.

Natural gas subsidiaries of the Standard Oil Co. of California are credited with plans for building a pipeline from Kettleman Hills to Puget Sound. Apparently, this project depends upon still further expansion of the productive areas of north, middle, and south domes or on the discovery of gas in northern California.

Entrance of the Union Oil Co. as an operator in the Kettleman Hills district has been made through the purchase of an undivided one-half interest in the 160-acre King lease of the Amerada Petroleum Corp. on the north dome. Union Oil Co. is also reported to be negotiating for the last available fee acreage on the north dome, approximately one mile west of the Associated Oil Co.'s Whepley well.

North American Oil Consolidated has entered the area, according to field reports by signing up the Blauvelt property on the east half of Sec. 36-31-17. These holdings are directly east of the pieces recently obtained by the Richfield Oil Co. and its subsidiary, Universal Consolidated Oil. Plans of the North American Oil Consolidated indicate that they will begin development work at once.

Shell is reported to have taken over the Ervin property in the middle dome. This property was prospected by George F. Getty, Inc. to the extent that a hole was drilled to approximately 6600 feet before being abandoned. Showings were not encouraging.

Petroleum Securities Co. is

preparing to start a test well in west Colinga area in Fresno County. The well will be drilled on the Garchell lease and its location is 990 feet north and 330 feet west from the southeast corner of Sec. 28-20-16.

Safety Men

(*Continued from Page 37*)

accident. The men say they never will."

"The Salt Creek division of the Midwest Refining Co. reached almost 900,000 manhours without a lost-time accident."

"For the past 853 days the northern pipelines of the General Petroleum Corp. have operated without an accident."

In the 1930 contest accidents decreased 29 per cent over 1929 and 39 per cent over 1928. There were 226 fewer accidents in the 1930 contest than in 1929 with 50,200 more workers enrolled.

In the election of officials of the Petroleum Division of the Council, R. E. Donovan, Standard of California, was elected general chairman, succeeding C. W. Smith, Standard of Indiana. D. J. Wallace, Mid-Continent Oil & Gas Association, was elected vice chairman.

Regional chairmen are E. R. Alden, Vacuum Oil Co., Atlantic; J. C. Bernd, Sinclair Refining Co., Great Lakes; J. L. Risinger, Magnolia Petroleum Co., Gulf; D. J. Griffin, Ohio Oil Co., Rocky Mountain; C. P. Anderson, Richfield Oil Co., Pacific coast. H. W. Boggess, Sinclair Oil & Gas Co., was re-elected chairman of the Mid-Continent division.

F. W. Lau, Standard of Indiana, was elected chairman of the engineering committee. Members of the committee are R. W. Black, Standard of New York; J. H. Herbert, Standard of Ohio; C. B. Swansen, Texas Pacific Coal & Oil Co.; H. E. Dischinger, Shell Petroleum Corp.; B. V. Osborn, Standard of Indiana; ;and Barton Cater, Standard of California.

Publicity editor is C. N. Hightower, Texas Pacific Coal & Oil Co. R. B. Roaper, Humble Oil & Refining Co., is chairman of the program committee. Chairman of the health committee is Dr. C. M. Aves, Humble Oil & Refining Co. J. W. Myers, Standard of New York, is chairman of the statistics committee.

Nominations for Crude Purchases Cutting Texas Production

By Paul Wagner

N. P N. STAFF WRITER

HOUSTON, Oct. 4

THE proration practice forced upon Texas operators by lowered crude oil purchased nominations is responsible for the continued whittling down of production averages.

Official figures for the present week promise on the basis of informal estimates to scale down the 764,750 barrels state average attained last week, despite nominal increased yields in the Panhandle and Gulf Coastal areas.

In the Panhandle, production was expected to be up from the 78,600 barrels daily level, because of the opening of wells after the Danciger Oil & Refining Co. had obtained temporary injunction against curtailing their properties[1].

Panhandle purchase nominations now approximate 65,000 barrels daily against a prorating allowance of 80,000 barrels for the Oct. 1-15 period and a committee schedule, which never was met, of 70,000 barrels daily in the Sept. 16-30 period.

In the Wichita Falls district, prorated under railroad commission orders at a maximum of 69,000 barrels daily, purchase nominations only slightly exceed 57,000 barrels as compared with last week's daily average production of 63,150 barrels.

Similar conditions apply in the central Texas region commonly referred to as general Ranger territory. There the present total of purchase nominations approximates 38,000 barrels as compared with runs of 46,650 barrels daily last week and maximum allowable under state prorating orders of 52,000 barrels.

Completions of new wells in Gulf Coastal territory promised to bring up the present week's daily average to 170,000 barrels as compared with last week's 168,450 barrels. South Texas promised to remain about stationary at 96,650 barrels and East Texas at 42,000 barrels daily.

Although total Texas production is already within the limits set in the statewide prorating orders effective Aug. 27, aggregating 766,500 barrels daily when revised, efforts continue to reach a curtailment level of 750,000 barrels. This mark, it is believed by Robert R. Penn of Dallas, chairman of the Texas industry's general curtailment committee, will be attained before the end of October.

The week ended with the definite outcome of a number of Texas wildcat discoveries still in doubt regarding producing values. In East Texas, the Joiner and others Bradford discovery, Rusk County, in which casing was set at approximately 3586 feet in Woodbine pay, had not been finally tested. Early in October, when it first showed for oil, it was estimated good for commercial production in some quantity.

Fuhrman Petroleum Co.'s No. 1 Ford, southeast of Deep Rock production in Andrews county, West Texas Permian salt basin, makes heads of five to 20 barrels in lime at 4372-4384, present total depth.

Hobbs field, in the Lea county, N. M., division of the salt basin, has been regauged under Umpire C. G. Staley and is credited with 678,406 barrels potential daily production for the prorating period Oct. 1-15. Production comes from 89 producing wells on 79 prorating units of 40 acres each, the "yardstick" used allowing 25 per cent for acreage and 75 per cent for average potential in distributing outlet of approximately 35,000 barrels daily.

[1] National Petroleum News, Oct. 1, 1930.

The Refiner Can Now GUARANTEE

the motorist a gasoline of uniform high anti knock quality made entirely from crude oil.

It has been made possible by the perfection of the Pratt process for the manufacturer of high anti knock blending fluid from crude fuel oil or distillate.

Pratt's Blending Fluid added to straight run gasoline gives an over all refinery production of motor fuel of commercial anti knock rating.

The Pratt process offers the refiner the opportunity to individualize his product and to guarantee its quality under his own trade name without the hazard of adding chemicals to obtain anti knock value.

A demonstrating unit is in continuous operation and is open for inspection.

An investigation of the plant is solicited.

The customer will profit by using a natural anti knock gasoline and the refiner will profit by supplying it.

The Automotive Distillate Corporation

Licensors of the Pratt Vapor Phase Cracking Process

Continental Life Building

ST. LOUIS, MO.

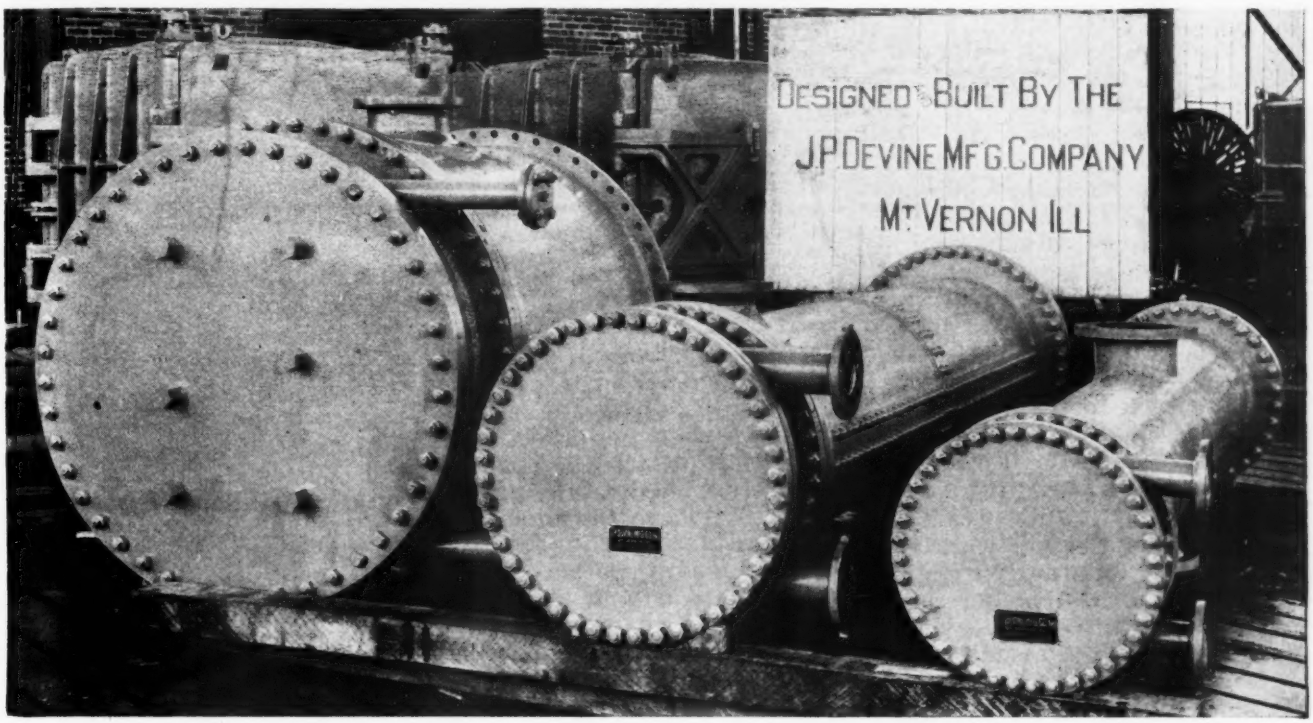
Complete Plants for the PRATT HIGH ANTI KNOCK Cracking Process

The first announcement of the Pratt High Anti Knock Cracking Process met with an industry-wide interest. Refiners wanted to know about the natural blending fluid which solves the uniformity-of-product problem and solves it at the refinery where control is absolute.

As sales and fabricating agents for the Automotive Distillate Corporation of St. Louis we are eager to place you in complete possession of all operating data and of equipment costs. One of the largest and most modernly equipped fabricating plants in the country is keyed for your immediate service. A complete Demonstrating Plant for test runs of your own crude is in operation.

Charles P. Jones
President

Another Texas Installation: 54" dia. Vacuum Condenser, 300 sq. ft.; 30" dia. Pressure Distillate Cooler; 20" dia. Pressure Distillate to gasoline vapor Heat Exchanger



J. P. Devine Manufacturing Company, Inc.

Mt. Vernon, Ill.

Sales Agents and Fabricators for the Automotive Distillate Corp., of St. Louis

NEW YORK ST. LOUIS CHICAGO HOUSTON

The Mid-Continent Skyline

By Lawrence E. Smith

(Impressions of how a well is drilled, after reading oil stories in fiction magazines.)

JIM, the driller, left his boarding house early that morning, for this was the day they were to bring in the well that would mean so much to the orphaned children of Joliffe, the big rancher. Jim drove unhurriedly the three miles in his ancient flivver, for it would not do to appear in too great a rush. Hopes were raised too high as it was and something might go wrong, although the geologist the evening before had said they had reached the granite formation in which the big production would be found.

The big rotary was idle, although there was a dense cloud of black smoke coming from the chimney over the boiler. The tool-dresser was there already and was hard at work with his sledge, putting the points on a rock bit. Another of the driller's assistants was engaged in carrying the big joints of pipe from the rack to their position inside the derrick. Presently these would be lowered into the boring.

"Let 'er go." Jim gave the command and the big walking beam started its orderly up and down motion while the big pumps began to draw the mud from the hole. Presently, if everything went according to the hopes of the Joliffe children, these same pumps would be engaged in sucking up the precious oil. . . . Time passed. The drone of the engine and the squeak of the bit alone disturbed the autumn silence.

"All hands to the fourbleboard," Jim suddenly shouted. He, the experienced, had detected — sensed, rather — a movement, a stir of life eight thousand feet below where he was standing. Before the crew could reach the crown-block, to which Jim had ordered them— before Jim himself could move from the spot where he was standing, the greasy deluge was on them.

Hastily they wheeled the big tanks, each of which would hold fifty barrels, into place and by means known only to the craft the flow was diverted into the wooden containers. The orphans wept and shouted in their exuberance.

To Jim it was merely another job. Without display of emotion he supervised the task of turning the oil into the tanks, where it would be kept until a refinery was built nearby. Calmly, he walked to a point fifty feet away and drove a short stake into the ground. This was the location of the next well to be drilled on the orphans' land. . . . etc. . . . etc. . . ."

* * *

Returning from Oklahoma City by automobile, four Tulsans narrowly escaped a serious accident when another car crashed into theirs. C. C. Herndon, vice-president of the Skelly Oil Co., W. P. Z. German general counsel and Alvin F. Molony, attorney, both of the Skelly company and Harry H. Smith, secretary of the Mid-Continent Oil & Gas Association, were on their way home from the hearing before the supreme court of the attack on Oklahoma conservation laws.

Near Chandler a car suddenly darted onto the highway, struck the car driven by Mr. Herndon and threw it against the guard posts at the side of the highway. Only the posts kept the party from overturning into a deep ditch. Only slight injuries were sustained by the four. It developed that the man who hit them was in a hurry to get away from a filling station when another man went after his pistol with homicidal intent.

* * *

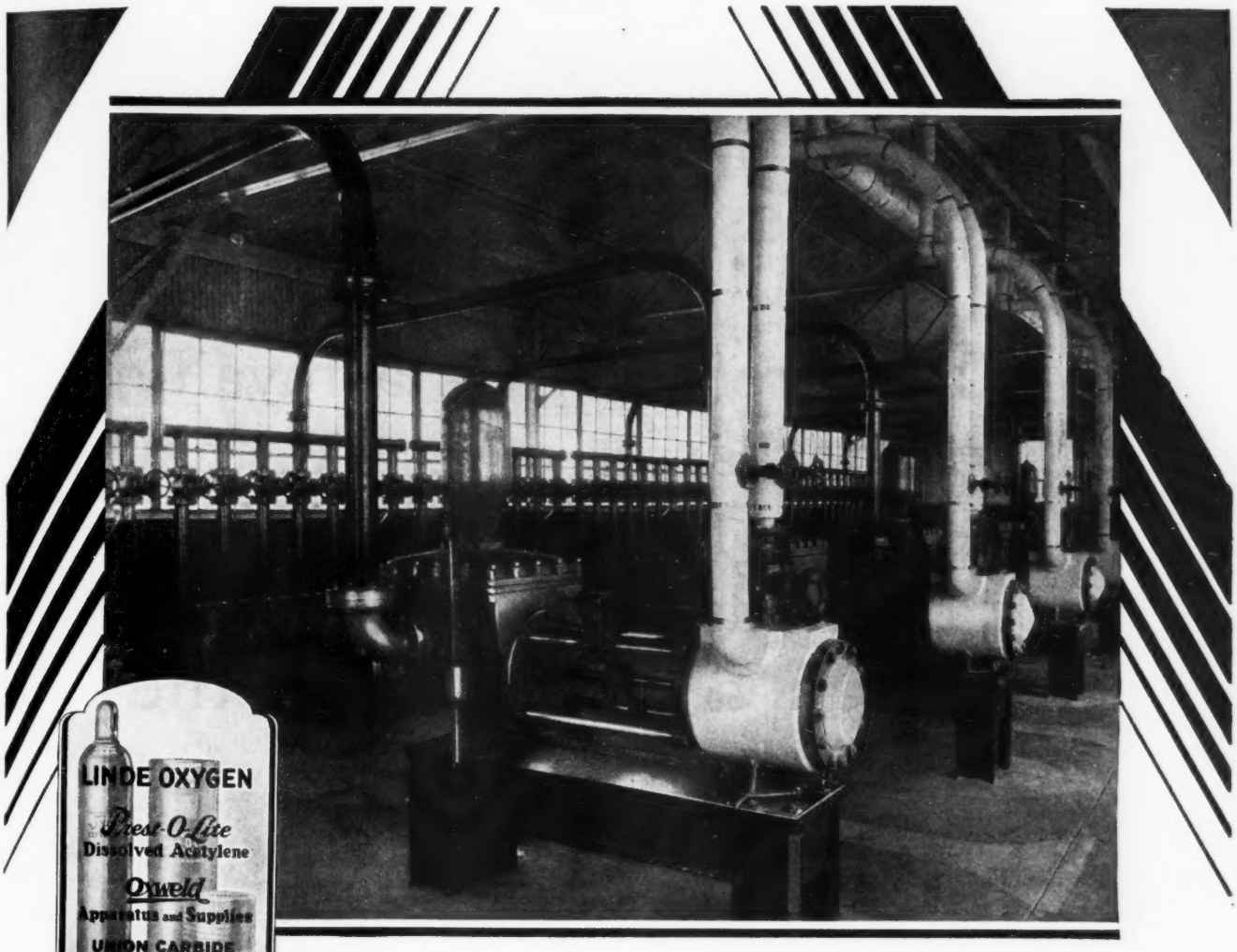
Some 50 to 60 employes in the marketing department of the Phillips Petroleum Co. will move to Tulsa where the southern division of the combined Phillips and Independent Oil & Gas companies will be maintained. Jeff T. Boucher, Oklahoma division manager of the Independent, will be in charge.

* * *

Except for a few filling stations in northern Oklahoma, the Standard Oil Co. of Indiana's operations under its own name in the state have been confined to small natural gasoline plants in the general Cushing district. Service pins were awarded to five employes of those plants recently. D. F. Cowgill, of the Oilton plant, received a 20-year pin and those given for 10 years continuous service went to E. H. Hann and J. R. Ryan, Drumright; D. L. Stayton, Shamrock and C. R. Bunch, Cushing.

* * *

Oklahoma City's schools and playgrounds are affected by the oil development. One of the south side schools was closed and 900 pupils transferred elsewhere when a big well came in nearby. Part of the school grounds is under development. Northeast of the city Lincoln park has reverted to status of ordinary park and is no longer considered a potential oil field. The Cromwell-Franklin Oil & Gas Co. leased it from the city, drilled a hole 4,500 feet, quit when the marker formations showed up to be greatly lower than it had been thought they would run. Wirt Franklin cancelled the lease, telling the city he didn't believe any oil ever would be found in the park.



The OXWELDED JOINT —100 per cent efficient

Oxwelded pipe joints made under Linde Procedure Control are as strong, as permanently leakproof, as easy to insulate and as free of maintenance expense as the pipe itself. They meet every requirement of modern piping design, increasing operating efficiency and practically eliminating upkeep costs.

Progressive engineers specify oxwelding under Linde Procedure Control.

THE LINDE AIR PRODUCTS COMPANY, THE PREST-O-LITE COMPANY, INC.
OXWELD ACETYLENE COMPANY, UNION CARBIDE SALES COMPANY,

Units of UNION CARBIDE AND CARBON CORPORATION

General Offices . . . New York UCC **Sales Offices . . . in the Principal Cities**

65 Linde plants . . . 48 Prest-O-Lite plants . . . 174 Oxygen Warehouse stocks . . . 156 Acetylene Warehouse stocks . . . 42 Apparatus Warehouse stocks . . . 245 Union Carbide Warehouse stocks

Royalties and Premiums

Every refiner pays a royalty on every barrel of crude that comes into his plant He may pay direct as a producer, or indirect as a buyer from the pipeline

But he pays

Often he pays a premium, too, if it is high-grade crude

From this crude he makes gasoline—much or little, good or bad That depends on the crude, his ability, and his equipment

Consider the Dubbs process

You know exactly what you pay and exactly what you get

What you get is more and better gasoline, regardless of your charging stock

The Dubbs process is making two gallons of gasoline (or more) grow where one grew before

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Gassing Slightly

Hon. Rollin Stone Launches Vicious Attack On Oklahoma Oil Proration Practices

NOTE: The following petition has been prepared for filing in a Justice of the Peace court in Tulsa county by the Hon. Rollin Stone, who would attack the constitutionality of Oklahoma's conservation statutes. Regardless of the outcome of similar suits in the supreme court of the state and in federal court, Mr. Stone says he plans to go ahead. Greater wisdom, he says, is often found in a J. P. court than in those of more dignity. Furthermore, by starting at the very bottom of the judicial ladder a greater number of appeals can be taken, thus drawing the affair out and affording the maximum of publicity. —Editor.

COMES now the petitioner, the Hon. Rollin Stone, a resident of Tulsa county, whose domicile is in Twp. 19N., R. 13E, who deposes at some length and finally gets around to say, to-wit, viz:

That he is a minority owner in 14 oil wells, drilled to depth of 600 feet, more and possibly less, producing an average of seven barrels daily total gross production, subject to royalties and other ravages of man and nature all of which make it durn hard to get along and pay the pumper and if he doesn't watch things a little closer and keep the grease cups filled on that engine there will be a sudden addition to the unemployment situation.

Said production is located on a lease in the Red Fork pool, the total acreage being 3.4 acres, deducting for the miniature golf course and filling station which occupy, as sub-leases, one corner of the lease.

Petitioner asserts that he has attended faithfully all proration meetings held in Tulsa for the past four years, numbering 386 all told, including the few that were held without formal notice to operators. During this time he has placed his properties in position to be prorated at any time and has repeatedly called the attention of Umpire Ray M. Collins, whose true name to your affiant is unknown, to the fact that discrimination was being practiced in that the petitioner's lease and all of the Red Fork field was not mentioned in any of the complaints, orders, citations and other documents caused by him, the umpire, to be issued from time to time and, pausing slightly for breath, that at no time had the petitioner's lease or the Red Fork field been given publicity in the trade journals or the daily newspapers which probably, if the truth were known, are in the pay of Soviet Russia.

Petitioner further relates that valuable advertising has been given to such fields as Oklahoma City, Seminole, Allen and others by creating the impression in the orders, etc., that they were practically unlimited as to the amount of oil they could produce. That thereby a handsome market was built up for royalties and in fact for any leaseholds within the immediate neighborhood of the production and that as a result thereof much money has changed hands, including the wagers on the decline rate of the various pools and a man is a sucker if he bets on Oklahoma City one way or another.

It is further charged that the persistent ignoring of the Red Fork pool has tended to depreciate its importance and that the market for properties and stock has thereby been held to the lowest possible figure. That the petitioner has at all times been ready to co-operate with the state in getting this publicity for his holdings created.

For these and many more reasons that could be set forth, petitioner charges that the proration methods used in Oklahoma have been and are at this time in violation of the federal Constitution, to whom he yields to no man in reverence, being always ready to send up three or more cheers when either the Constitution or George Washington is mentioned.

Specifically, he charges that the conservation laws of Oklahoma, under which the corporation commission of the state issues orders poking its nose into everybody's business and telling everybody in a supposedly free country how to run his affairs, are in direct violation of the federal constitution and in particular the amendments 1 to 19, inclusive, in whole or in part, either or both, ipso facto and de jure.

In support of this, petitioner cites the case of Ohio Oil Co. v. Indiana, which case has been used with telling effect, by both sides, in every important lawsuit since 1886. If further decisions are needed, he begs leave to file with the court a bound copy of "The Layman's Handy Pocket Guide of the Law," which petitioner will ask the court to handle gently on account of its having been in the family for some 50 years and some of the leaves have come loose.

It is further charged that actual financial loss was sustained by plaintiff recently. He learned that various operators were to be cited by the state corporation commission for violation of

proration orders, thus affording them the opportunity to say publicly that their wells flowed with such force that they could not be held to the allotted figure by any known means.

Plaintiff, expecting to be included in the group cited, engaged legal counsel to defend him and prepared a statement for the press to be released as soon as citation was made. The lawyer demanded pay in advance, same totaling five dollars, and public stenographer's fees of $1.60 were paid for preparing the statement.

All this was lost as plaintiff again was ignored by the commission and he asks the court to recover these expenditures from the commission, to be paid out of any moneys not otherwise appropriated.

It being the understanding of petitioner that where constitutional questions are involved three judges must hear the case, he urges that this case be treated with more than usual dignity and that either three justices of the peace or two of them and a constable be called in. It is further his request that the case be set for early trial, as he has a purchaser in mind for his properties, and that said prospective buyer's opinion would be influenced somewhat by the greater importance the properties would assume through publicity afforded by this proceeding.

Petitioner takes this opportunity of denying in advance allegations that doubtless will be made by the defendant, the state corporation commission. It is not true that he once borrowed 50 cents from Commissioner Fred Capshaw and refused to return it. Neither is it true that plaintiff once played the saxophone and assertions that will be made that he once voted the Republican ticket will be disputed with all the strength of his being.

For all the reasons given petitioner prays the honorable court to enter its opinion (prepared form of which will gladly be supplied) holding that the Oklahoma conservation laws are in violation of both the state and the federal constitution or, in lieu of that, an order directing the corporation commission to include plaintiff in future proration orders, etc. Amen.

Big Lake Producers Run Tubing In Effort to Cut Output

HOUSTON, Sept. 27

EFFORTS to curtail production of the Big Lake field of Reagen county have been unsuccessful to date. Tubing is to be run in the Big Lake Co.'s 2-C and the Texon Group One 2-B University wells to see what effect this handling will have. These wells are producing from the 8500-foot level.

Recommendation was made recently by David Donoghue* as technical adviser to the state curtailment committee, that 1500-pound back pressure be built up and choker sizes decreased. He reported an excessive gas/oil ratio in the wells.

Field reports indicates pressures on the 2-B well of the Texon—Group One interests and the 2-C of the Big Lake Oil Co., last week, were increased to 650 pounds with virtually no change in oil or gas production.

Comparisons as of Sept. 12 and Sept. 17 are shown in accompanying table.

In a paper before the American Petroleum Institute division of production at Galveston, Sept. 4, Melvin J. Collins and Joe W. Folk, of the Big Lake Oil Co., gave earlier experience with pressures on Big Lake deep wells as follows:

"Big Lake 1-C started producing with a back pressure of 25 pounds. Its gravity at this pressure was 52.8 degrees Be. and the gas oil ratio 20,000 cubic feet per barrel. The well showed a gradual increase in production till the pressure was raised to 300 pounds. The second day after this pressure was applied, its production jumped over 200 barrels in one day, the gravity increased to 61.2 Be. and the gas oil ratio dropped to approximately 12,000 cubic feet per barrel of oil.

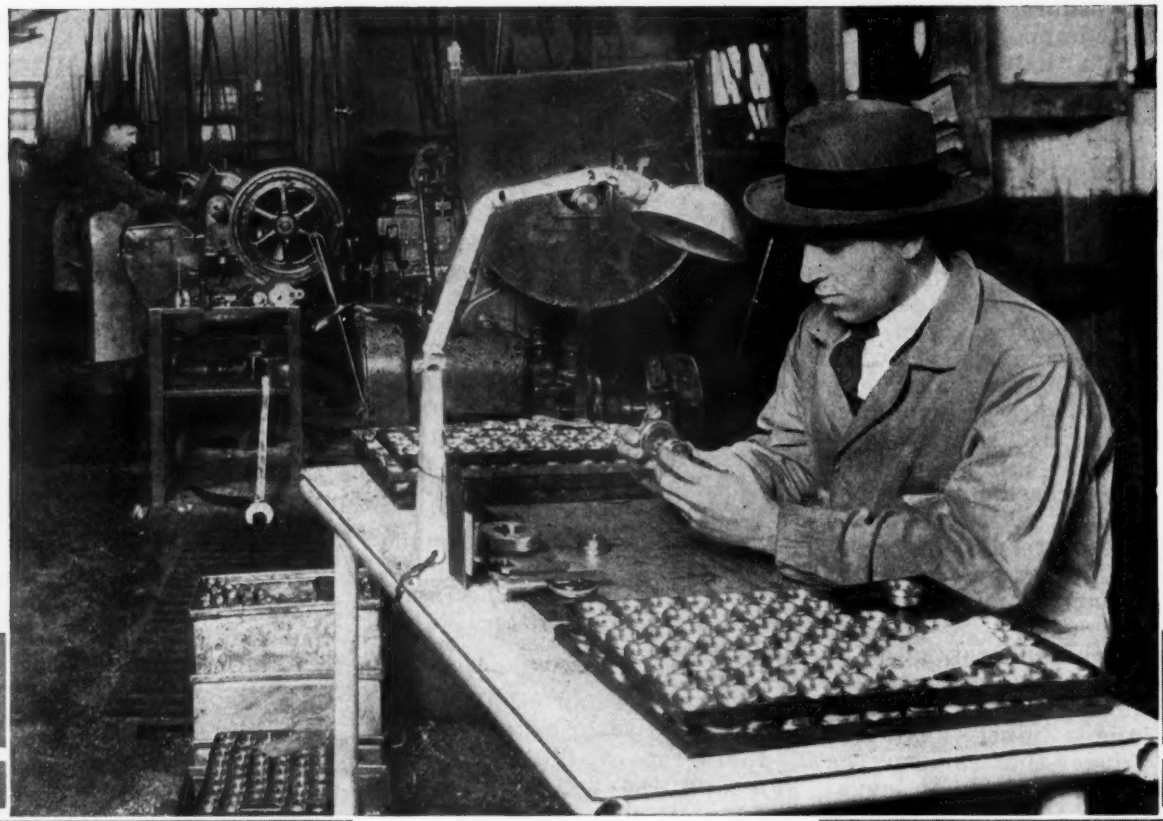
"Big Lake 2-C started producing from the deep pay at 70 pounds back pressure. The gravity of the oil was 58.9 degrees Be. and its production 1246 barrels. Gas-oil ratio was approximately 20,000 cubic feet per barrel. The production increased to 1362 barrels in the next two days with the same back pressure. The following day the back pressure was increased to 390 pounds and the production was 1636 barrels, the gravity 62.6 degrees Be. and the gas-oil ratio about 17,500 cubic feet per barrel of oil.

"The gas, after passing through the separator with the back pressure at the well of less than 100 pounds, has a gasoline content of approximately one gallon per 1000 cubic feet. After the pressure is increased to several hundred pounds the gasoline content of the gas drops to approximately one-half gallon per 1000 cubic feet of gas."

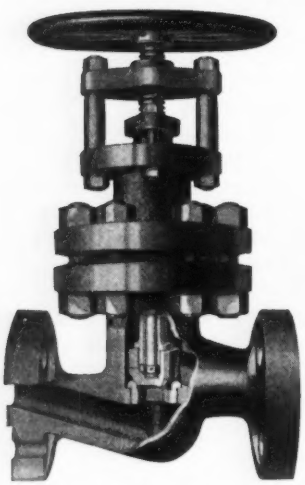
*National Petroleum News, page 36, Sept. 3, 1930.

Big Lake Deep Well Production Data

Company	Well	Gas Prod., Sept. 12, cu. ft.	Oil Prod., Bbls.	Pressure (pounds)
Texon	1-B	26,343,000	2740	165
Texon	2-B	29,134,000	2107	450
Texon	3-B	19,600,000	1652	300
Big Lake	1-B	10,427,000	1237	450
Big Lake	2-C	33,771,000	2610	550
Big Lake	3-C	2,724,000	161	200
		(Sept. 17)		
Texon	1-B	29,911,000	2787	165
Texon	2-B	27,276,000	2120	650
Texon	3-B	19,550,000	1690	300
Big Lake	1-C	10,427,000	1257	450
Big Lake	2-C	35,203,000	2555	650
Big Lake	3-C	2,724,000	171	300



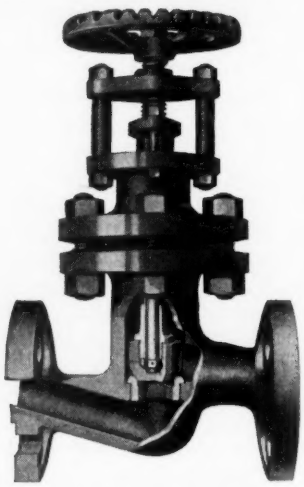
Inspection is as definite a part of production of Edward valves as machining. Standards of accuracy are based on an intimate knowledge of the most severe conditions to which valves can be subjected.



Valve No. 1568 for 1500# W.S.P., heat treated forged body, bonnet and yoke, EValloy (stainless) stem and EValloy or EValnite (Nitralloy as processed by Edward) seat and disc.

MORE STRENGTH- LESS COST

TRADE MARK REG. E V U.S.PAT.OFFICE

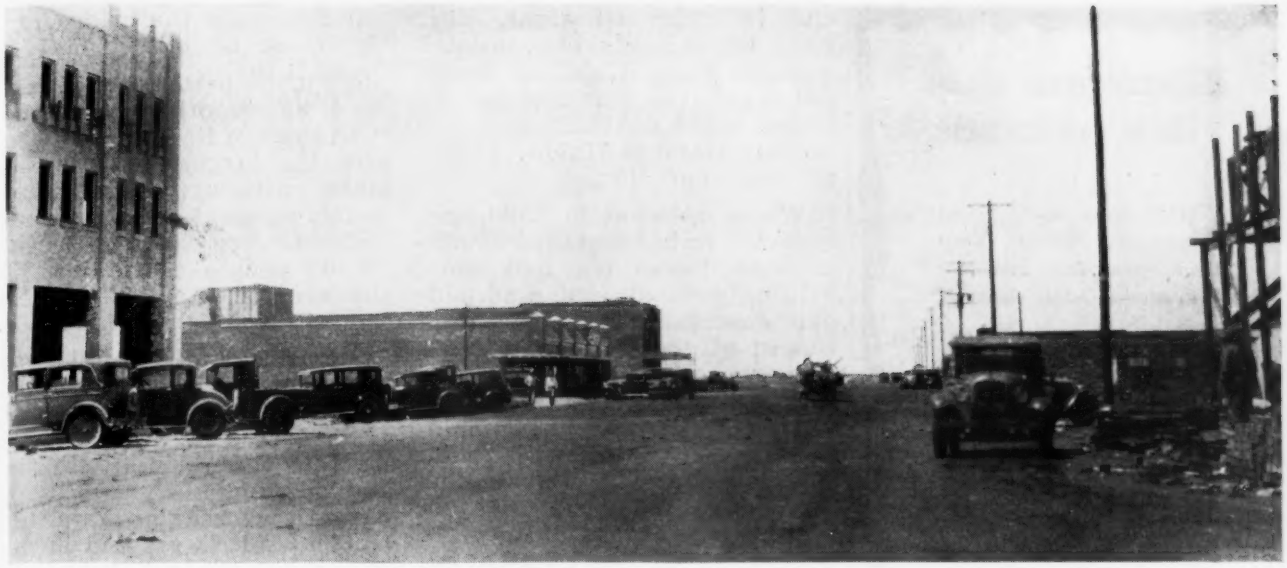


Valve No. 828 of forged special carbon or alloy steel supplanting cast steel for pressures to 600 lbs., in sizes up to 2".

Now you can have more strength for less money. If you seek lower overall cost per unit of capacity, look to Edward. Selling prices have moved steadily downward or—even more effective toward ultimate economy—specifications have been revised upward without increased cost to the buyer. Better materials, ruthless rejection under increasingly exacting inspection standards, workmanship tuned to close limits of tolerance.

THE EDWARD VALVE & MANUFACTURING CO.
EAST CHICAGO - - - INDIANA

EDWARD VALVES



The main street of New Hobbs, which is expected to be "the" town, after it gets built

Hobbs, All Three of Them, Wait Hopefully for Oil Boom

By John Power

N. P. N. STAFF WRITER

HOBBS, N. M.

WE DROVE into Hobbs from Carlsbad, over roads made by travel over the hard lime caprock, rather than by any particular effort on the part of regularly constituted road builders. Not that the road was bad, but it had a sort of rough unyielding quality quite unlike the sand and mud of our Oklahoma experience.

Approaching the field, and the town lying in its midst we had the wind at our back, so that the first intimation that we were nearing our destination was the sight of the derricks, standing slim and tall against the blue sky. Had the wind been from the opposite direction it is more than a possibility that the odor of the gas,—something approaching that of a stock yards on a hot night,—would have been our first greeting.

When we said that the town lay in the midst of the field, we meant just that. We know that it is customary for towns to "nestle," particularly when they are in the midst of anything, but Hobbs couldn't nestle on the flat plateau on which it is situated any more than an egg can nestle on a bathroom floor.

And right there we found out one thing about Hobbs. It's triplets. What at first appears as a barrel-house town spread out over much more territory than the usual compact oil field town, turned out to be three towns, two of which boast separate post offices, and which maintain their own "Laws."

The road from Carlsbad comes in through New Hobbs, which hasn't much population at present, but which holds most of the brick and steel buildings going up. Before the uninitiated passenger is ready, the road swings sharply to the left through the middle member of the group, known as All Hobbs, and comes to rest, dusty but triumphant just off the main street of Hobbs. Three towns in three minutes is sure seeing a lot for the money.

At the present time, and until the big brick hotel, movie—with sound—and stores are completed, the town of Hobbs is getting all the play. It follows the precedent of its kind, with clothing stores, restaurants, rooming houses and so on lining the sides of its principal street, with one or two side streets devoted to more hotels and rooming houses, a speakeasy, and in accord with the present national law, two minature golf courses.

Much of the equipment at Hobbs has seen service elsewhere. By far the biggest percentage of the cars seen on the streets bear Texas licenses, and most of the drillers, supply and specialty representatives, have been transferred to Hobbs from the less active areas of West Texas.

In fact several of the hotels have been moved bodily to the new towns from Wink, Pecos, and elsewhere. We stopped at

Eliminate this fire hazard

OILY floors are fire and accident hazards. Keep them grease-free and safe with regular Oakite cleaning.

Oakite cleaning quickly loosens and rinses away all trace of oil and grease, leaving floors free from all danger-breeding films. Ask our nearest Service Man to tell you about Oakite materials and methods for doing this and scores of other oil-industry cleaning jobs. No obligation.

Oakite Service Men, cleaning specialists, are located in leading industrial centers of U. S. and Canada.

Manufactured only by

OAKITE PRODUCTS, INC.
42C Thames St., New York, N. Y.

OAKITE
Industrial Cleaning Materials and Methods

Heat Exchangers

The Fourth Annual Engineering Volume of National Petroleum News out November 12 will carry an article on Heat Exchangers that will in itself be worth many times the cost of a full year's subscription. This article will include methods of calculation of heat transfer, a discussion of metals employed in heat exchangers, construction, design and use of exchangers and economy resulting therefrom.

Watch for this important article in the

Fourth Annual Engineering Volume of National Petroleum News

Out November 12, 1930

one, in which all signs, door keys, letter heads, etc., insisted was the Texas Hotel, at Pecos, but which the management insisted with equal firmness was the Rig Hotel at Hobbs. It was all very confusing.

When we went to Hobbs we expected to be reminded of other boom towns we had seen, with crowded streets, mud puddles containing the perennial rumor of the boy on a mule somewhere in their depths, and all the hip hooraw that lots of drilling wells, and big completions usually bring with them.

As a matter of fact, it took us three days to decide of just what it was Hobbs did remind us, and then, like a flash, we had it. Hobbs is for all the world like an egg trying to hatch in a Frigidaire.

Frankly, Hobbs isn't having any boom, in the sense that work is more plentiful than men, that anything goes, just so the holes are put down, with whatever prices tradesmen can get for food, clothes, and lodging being all right. Far from it.

Of course, there is quite a bit of work going on, but 60 active locations do not require all the drillers and roughnecks in the world, and locations have a habit of going dead about the time they appear ready to provide rigging up jobs.

Particularly in New Hobbs, buildings are going up, streets are crowded in Hobbs proper, and rooms are scarce, but the fact that rooms are only scarce, not non-existent, tells the tale of the boom that died aborning.

Hobbs is trying hard enough to boom, but it's simply no go. The operating companies are not scattering locations broadside, nor are there several pipeline companies running in lines, and grabbing for the oil. The people that spend the money that make an oil town boom are going ahead cautiously, anxious to spend as little as possible to drill wells that can not be produced until some undetermined future date.

So far, there has been remarkably little lawlessness at Hobbs. The "Laws" have a habit of requesting the sudden absence of undesirables, and requesting it with such point, that hijackers, gamblers, and the usual floatsome that rides in on the crest of oil booms have found it the better part of valor to try for smoother waters.

In spite of its youth, Hobbs is now the largest town in the state, although New Mexico boasts some of the oldest cities in North America. Upwards of 14,000 people are claimed for the area embracing the three townsites.

What the future of the town will be depends strictly on how badly the companies owning acreage in the field need the oil. Another 50, or 100 locations started suddenly would set the place to booming as it wants to. Hobbs itself is set and anxious to go, but it won't be another Ranger, or Seminole, not by a mile, as long as there is a continuance of the present efforts to keep Hobbs oil off the market.

Hobbs Highlights: Hobson and King are using the first Hydril in the field. Made a well in 45 pay roll days, a feat of which they are justly proud.—"Cotton" Holder is pushing tools for Loffland Bros. in the Hobbs area.—John Shue and Schroeder are doing some contracting, as is G. C. Conrad.—Carl B. King and Noble and Olson are among the well known Oklahoma drilling contractors that have several strings under contract at Hobbs.

If the field moves up into the town lot area at Hobbs, as it indicates it might do, a merry time will be had by all. Surface rights only have been available for sale, and store owners, supply houses, etc. may wake up to find a cellar being located under their front porch.

Art Walker is selling quite a bit of Magic Boiler compound around Hobbs.—W. C. Schmittou is the Hydril, representative.—P. D. Long and Bob Porter are on the ground for Chicago Pneumatic Tool Co.—Cleve Campbell is around for the Iverson Se Specialty Co.—"Buck" Weaver, with the Reagan Sales Co., can talk Spanish, having lived in South America a spell. He was reported as studying German, which he thought might come in handy on occasion. Seth Smith,—American Iron and Machine Works of Oklahoma City, is covering the Hobbs activity.

Construction of Tube Stills for High Pressure and Temperature Work

By John Primrose*

(*Presented before American Society of Mechanical Engineers, Tulsa, Oct. 6-8*)

MUCH has been written about the design and operation of tubular oil heaters, frequently referred to as tube stills, for pressures and temperatures customary in low-pressure distillation, and it is thought that a description of the construction of tube stills in use with cracking units, involving higher pressures and temperatures, and a tabulation of the results obtained in operation would be of interest.

Cracking units continue to be a very necessary part of the equipment of a complete refinery, and to insure securing the best return from any cracking unit, it is important that the initial process of heating the oil to the temperature desired, under the pressure prevailing in the system, be given careful and expert consideration.

Many different designs of tube stills have been developed for this service and later designs have shown a marked improvement over the earlier ones. The illustrations of this paper show two distinct arrangements of tube stills designed for high pressure and temperature, which have lately been put into commission with very gratifying results. The difference in design of the two tube stills is required to conform to variations in the processes for which they are used.

In Fig. 1 a tube still is shown having a convection bank made of steel tubes fitted with cast-iron extended surface on the outside. This convection bank is arranged four tubes wide, the outside cast-iron surface of the upper two rows having a ratio of 1.9 to 1, compared to the inside surface, the middle four rows having a ratio of outside to inside surface of 5.1 to 1, and the lower four rows having a ratio of 7.6 to 1.

Directly over the furnace 128 steel tubes, without any cast-iron covering, are arranged in a bank 32 wide by 4 high for the absorption of heat by radiation direct from the furnace. It will be noted that the upper rows of tubes in this section are partially shielded from the furnace by the lower two rows, all of the tubes in this section being staggered and their center-to-center relationship determined definitely to lessen the heat absorption of the upper rows. This provides for holding the oil in the tube stills for an appreciable period of time without materially absorbing more heat.

Fig. 2 shows the design of a tube still which is suitable for a somewhat different cracking process. The convection bank, as before, is made up of steel tubes fitted with cast-iron extended surface on the outside. This convection bank is three rows of tubes wide, the upper two rows being covered with cast-iron surface proportioned to give a ratio of outside to inside surface of 1.8 to 1, the next four rows of the same construction having an outside to inside ratio of 4.7 to 1, and the bottom four rows having an outside to inside surface ratio of 7.1 to 1.

The radiant-heat absorbing surface over the furnace is composed of steel tubes without any cast-iron covering and arranged two rows high. As this unit was installed in a refinery already equipped with a cracking unit of the same type, installed some time previously, it is possible to have a direct comparison of the two types of tube stills under the same operating conditions.

A careful analysis of the plant operation showed that the unit equipped with the later design of tube still produced a greater yield of gasoline with less fuel consumption. The production of gas and coke was

*Vice-President, Foster Wheeler Corp.

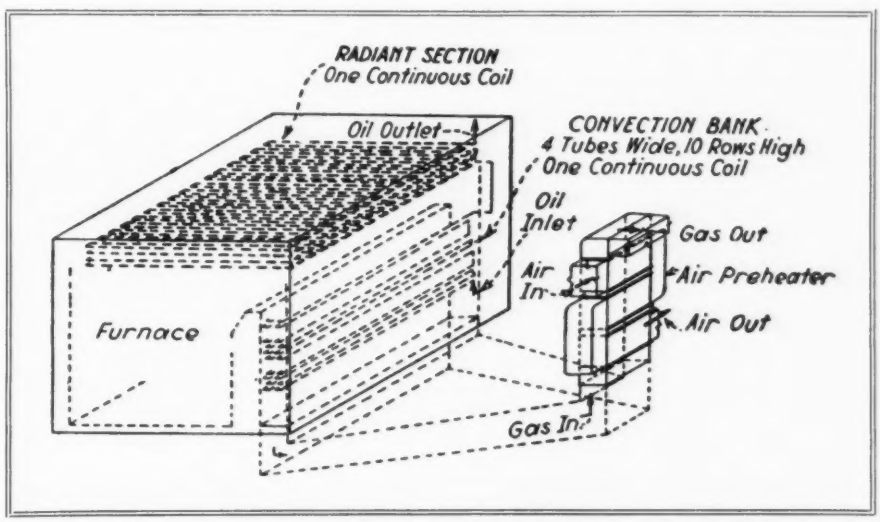


Fig. 1—Tube still with convection bank of steel tubes fitted with cast-iron extended surface on the outside

Table 1

PERFORMANCE DATA FOR TUBE STILL (Fig. 1)

Run No.	1	2	3	4
Gravity	33.4	33.0	30.9	21.5
Bbl. per hr. on stream	282	292	253	259
Temperatures, deg. Fahr.				
*Oil entering tubes with 7.6 ratio	570	580	536	580
Oil leaving tubes with 7.6 ratio	627	626	602	643
Oil leaving tubes with 5.1 ratio	698	701	693	726
Oil leaving tubes with 1.9 ratio	722	726	726	752
Oil leaving lower row roof	831	856	849	874
Oil leaving second row roof	863	876	881	889
Oil leaving third row roof	864	880	893	896
Oil leaving fourth row roof	885	900	898	899
Gas entering tubes with 1.9 ratio	1185	1300	1355	1296
Gas leaving tubes with 7.6 ratio	699	749	746	783
B.t.u. per hr. to oil × 1000				
Tubes with 7.6 ratio	3720	3140	3840	3900
Tubes with 5.1 ratio	4850	5380	5610	5430
Tubes with 1.9 ratio	1710	1855	2125	1775
Total convection bank	10280	10375	11575	11105
Lower row roof	8080	10180	8350	8800
Second row roof	2515	1645	2295	1120
Third row roof	79	334	870	527
Fourth row roof	1680	1680	370	226
Total roof	12354	13839	11885	10673
B.t.u. per hr. to oil per sq. ft. internal heating surface				
Tubes with 7.6 ratio	10950	9230	11300	11450
Tubes with 5.1 ratio	14260	15850	16500	16000
Tubes with 1.9 ratio	10500	10900	12500	10430
Average convection bank	12100	12200	13600	13100
Lower row roof	9650	12150	9960	10500
Second row roof	3000	1960	2740	1336
Third row roof	94	398	1037	630
Fourth row roof	2005	2005	442	270
Average roof	3690	4130	3540	3180
Convection bank				
M.T.D.	261	332	383	346
B.t.u. per hr. per sq. ft., internal heating surface per M.T.D.	46.4	36.9	35.5	37.8

*Numbers indicate ratio of outside to inside surface.

less, which permitted the unit being on stream for a longer period.

Both of these units are equipped with air-cooled side walls, and because of the temperature of the oil entering the tube still, with an air preheater. Air for combustion is first circulated through the air space in the walls, and then passed through the air preheater, after which the air is introduced into the furnace through the fuel burners. This arrangement materially reduces the losses due to radiation from the furnace walls, and the use of the air preheater permits the exit flue gases to be reduced in temperature to an economical point despite the comparatively high temperature of the oil entering the tube still.

The proportioning and locating of the radiant-heat absorbing surface in both designs has been given very careful consideration to avoid the possibility of flame impingement and to limit the heat-absorption rate well within that which would result in a metal temperature so high that undesirable destructive distillation would take place and the tubes themselves suffer from over-heating. In pressure-still service of this type it is always of importance to limit the temperature of the metal because the strength of the metal falls off rapidly as the temperature is increased.

The surface absorbing heat by radiation must be large enough in area to absorb sufficient of the heat liberated in the furnace to insure that the temperature of the furnace gas entering the convection bank is low enough to prevent overheating of the upper tubes in this bank and the oil they contain. This must be accomplished when the quantity of air is only sufficient to insure complete combustion.

The accompanying temperature readings and flue-gas analysis for the tube still, in Fig. 2, show that with not more than 20 per cent of excess air preheated to 540 F. before entering the furnace, the furnace gases entering the convection bank were at a temperature of about 1340 F.

Referring to the performance data, the calculations for the tube still, as in Fig. 1, were based on the oil side of the tube still, and the calculations for the tube still, as in Fig. 2, were based on the gas side of the tube still. Thus in the case of the tube still as in Fig. 1, no account is taken of the heat required for reaction or vaporization, which it is difficult to determine exactly.

The heat-absorption rate has been determined for various sections of the tube still as in Fig. 1. This varies closely from 10,730 B.t.u. per hour per square foot of internal surface in the bottom section, having a

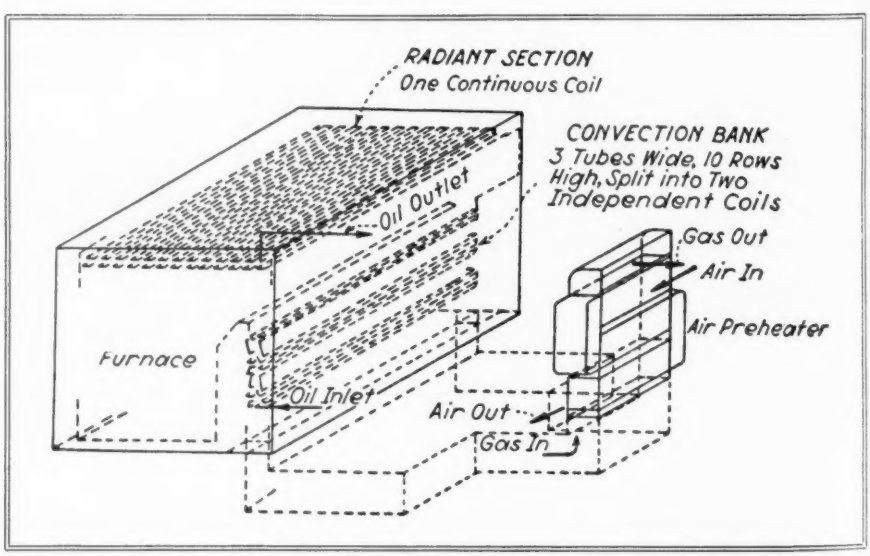


Fig. 2—Tube still with arrangement to meet particular conditions

ratio of outside to inside of 7.6 to 1, 15,650 in the middle section, having an outside to inside ratio of 5.1 to 1, and 11,080 in the upper two rows, having an outside to inside ratio of 1.9 to 1.

This illustrates the desirability of increasing the surface in contact with the furnace gas as its temperature is lowered to insure the inside surface of the heating elements being utilized to the greatest extent. In the radiant-heat absorbing surface over the furnace the average heat absorption in the lower row is about 10,715 B.t.u. per square foot of inside surface, in the second row it is 2,225 B.t.u., in the third row 540 B.t.u., and in the upper row 1160.

In this case it was desired to retain the oil in the heater after it had reached the cracking temperature with as little heat absorption as possible, which could only be gaged by the increase in the sensible heat of the oil as indicated by its temperature after passing through the various rows.

The observations reported in the accompanying data sheets were made during regular plant operation and without particular effort to operate the unit efficiently. Unfortunately, the data are not sufficiently complete to work out a satisfactory heat balance, but with a flue-gas temperature leaving the preheater of 400 F., and a reasonably high CO_2, it is evident that the efficiency of the unit was very good.

In the case of the tube still as in Fig. 2, the heat absorbed has been calculated from the furnace side of the unit because it is believed that the thermal efficiency can be more accurately determined in this way. In these calculations the radiant and unaccounted for losses were estimated to be 5 per cent of the total heat input in the case of the tube still alone. This appears to be a reasonable assumption since the air-cooled walls of the furnace contain air at 120 F.

The excess of air supplied for combustion, as indicated by a CO_2 of 11.2 per cent in the flue gas leaving the convection bank, corresponds to approximately 20 per cent when burning cracking-still gas. The temperature of the furnace gases entering the convection bank was 1340 F., indicating that the surface absorbing heat by radiation from the furnace was sufficient in extent. The heat-absorption rate in the tubes of the radiant section averages 13,420 B.t.u. per hour per square foot of inside heating surface.

Deposit of coke in the tubes of this section was small in quantity and was not baked hard. The tubes showed no signs of overheating, from which it can be concluded that the limit of safety in the rate of heat absorption has not been exceeded. The thermal efficiency of the tube still only was 69.9 per cent, and the thermal efficiency of the tube still and air heater combined was 75.5 per cent.

These tests indicate that it is quite possible to design a tube still for high-pressure and high-temperature service, even when the oil enters the tube still at a high temperature, which can be safely operated and produce excellent results from the processing of the oil, and at the same time have a reasonably high thermal efficiency when compared with like apparatus in other industries.

Table 2

PERFORMANCE DATA FOR TUBE STILL (Fig. 2)

Test No.			1
Temperatures, deg. fahr.			
Oil entering convection bank			765
Oil leaving convection bank			805
Oil leaving roof tubes			910
Gas entering convection bank			1340
Gas leaving convection bank			810
Gas entering air preheater			750
Gas leaving air preheater			430
Air entering air preheater			120
Air leaving air preheater			540
Outside air			40
Fuel			
Kind			Fixed gas from cracking unit
Specific gravity			1.0
Quantity, cu. ft. per hr.			19720
B.t.u. per cu. ft.			1625
Flue-Gas Analyses per cent	CO_2	O_2	CO
Entering convection bank	11.3	.....	.....
Leaving convection bank	11.2	3.2	0.0
Entering air preheater	9.0	5.8	0.0
Leaving air preheater	8.8	7.0	0.0
Tube Still Only			
Heat Quantities, B.t.u. per hr.			
Heat input to furnace			
Fuel			32,100,000
Preheated air			2,535,000
Total			34,635,000
Heat to oil from gases in convection bank			4,070,000
Heat losses in gases leaving convection bank			8,700,000
*Radiation and unaccounted-for losses			1,731,750
Total heat not absorbed in roof			14,501,750
Total heat to oil in roof			20,133,250
Total heat to oil in convection bank			4,070,000
Heat Balance		B.t.u. per hr.	Per cent
Total heat to oil		24,203,250	69.9
Dry flue-gas losses		4,950,000	14.3
Losses due to hydrogen		3,750,000	10.8
Radiant and unaccounted-for losses		1,731,750	5.0
Total		34,635,000	100.0
Tube Still and Air Preheater			
Heat Balance		B.t.u. per hr.	Per cent
Total heat to oil		24,203,250	75.5
Dry flue-gas losses		3,160,000	9.8
Losses due to hydrogen		3,276,000	10.2
Radiation and unaccounted for losses		1,460,750	4.5
Total		32,100,000	100.0
Transfer Rates			
B.t.u. per hr. per sq. ft. internal heating surface			
Convection bank			5550
Roof			13420
Convection Bank			
M.T.D.			198
B.t.u. per hr. per sq. ft. internal heating surface per M.T.D.			28.1

*Assumed as 5 per cent of total heat input.

OCECO PROTECTION
COSTS BUT A FRACTION OF 1% OF THE VALUE OF TANK and CONTENTS
- - lack of proper protection costs you several times as much a year

To completely equip a tank with all the necessary OCECO Fittings costs but a negligible part of the value of tank and contents . . .

Yet OCECO protection yields tremendous returns—

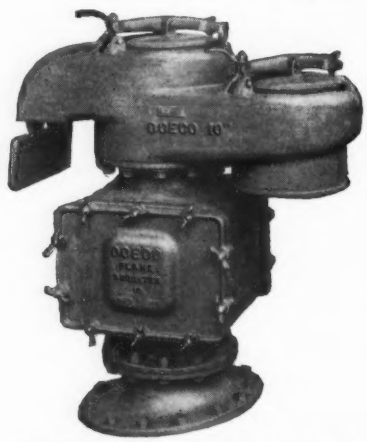
Fire hazard is reduced to a minimum. Fire has never entered a tank through an OCECO Fitting.

Insurance costs are reduced. Insurance companies apply their lowest rates on tight tanks which are OCECO-equipped.

Evaporation loss is minimized. By reducing evaporation losses and conserving stock, OCECO Fittings usually repay their cost within a few months. Thereafter they return handsome dividends year after year.

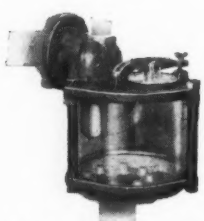
OCECO Tank Fittings are designed by men of practical oil field experience tested by Underwriters' Laboratories, Inc., proven by years of actual experience, and endorsed by leading oil companies throughout the world.

An OCECO engineer is always available for consultation on your particular needs.

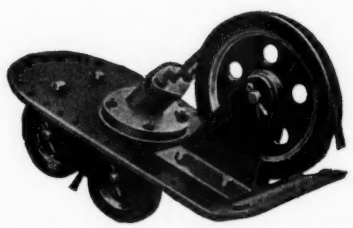


OCECO Vent Unit consisting of double flange vent collar, flame arrestor, flame snuffer, and conservation vent valve with vacuum and pressure relief valves.

OCECO Gauge and Thief Hatches contain no liquid seals or gaskets—yet they're gas-tight, water-tight, and spark-proof. Self-closing, foot-operated cover.



OCECO Look Boxes allow light to enter from all sides, permitting an unobstructed view of the stream. Cylindrical Pyrex glass eliminates breakage due to temperature strains.



OCECO Cable Sheave Brackets (for use with OCECO Safety Tank Winch) make possible the operation of swing lines from the ground. Cable passes through a gas-tight stuffing box to eliminate fire hazard and reduce evaporation.

THE OIL CONSERVATION ENGINEERING CO.

877 ADDISON ROAD — **CLEVELAND, OHIO**

Engineering and Sales Service:

90 West St., New York — **Tulsa Trust Bldg., Tulsa, Okla.**

Box 552, Beaumont, Texas

Care in Installation of Hot Oil Pump Essential, Says Manufacturer

TULSA

IN DISCUSSING the modern hot oil pump of the reciprocating type before the meeting of Amercan Mechanical Engineers of Tulsa, Fred G. Applegate, of the Worthington Pump & Machinery Corp. summarized as follows the points to be kept in mind in solving hot-oil pumping problems:

Construction features have been standardized on the basis of operating results.

The pressure limits under temperature have been established for cast iron, semi-steel, cast and forged steel.

The use of chromium-plated rods and plungers can be increased with profit to the refiner.

The static head on suction should be watched carefully and should in all cases be greater than the vapor pressure of the oil pumped. A vent pipe from a run down or mixing tank to the vapor tower will help to eliminate operating troubles arising from vapor in the suction.

Suction lines should be taken from the bottom of run down or mixing tanks, and as far away from the inlet connection as possible.

Suction lines should be made carefully, using long-radius bends and with full allowance for expansion to avoid excessive strain on joints and avoid leakage.

Proper design and layout of discharge lines are also necessary to prevent distortion and consequent breaks or leaks.

The author divides pump liquid ends into two general classes. The first class is the direct-flow type where the hot liquid passes into and out of the pump cylinder. The second type is that in which cylinder and valve chest are separate, being connected by surge pipes filled with cold oil which transmit the pump impulses to the charging oil, without the hot liquid coming into contact with cylinder, piston, or plunger. This type is represented by the Dow, Worthington, and such types of surge pumps.

The main object of cooling stuffing boxes with oil, water, or other cooling media, is not always merely to prevent deterioration of the packing, says the writer. In many if not most cases the matter of prima importance is to prevent the escape of vapors or liquid, which is heated above the flash point, to the air with the resultant danger of fire or explosion.

Another point of construction, of main importance chiefly to the manufacturer, is that supports for the cylinder must be so designed that proper allowance is made for the maximum expansion to which the metal may be subjected at its highest working temperature.

Up to 500 pounds working pressure hot oil pumps are designed to use pistons and piston rings. Above that approximate pressure the plunger type is used, on account of piston leakage losses which reduce the volumetric efficiency of the piston type.

Stuffing boxes are usually made the length of the pump stroke where only external cooling is employed, but when the piston or plunger is internally cooled, usually by means of cold oil introduced through a "trombone" line, this box may be only half as long as the stroke.

According to the author, experience has shown that the cast-iron plunger gives good service when outside cooling only is used. When internally cooling the plunger, steel with 60 or 70 scleroscope hardness should be used, due to the danger of cracking produced by stresses in cast iron from the temperature differential between hot oil and cooling liquid. Since chromium plated plungers are easy on the packing, and also resist corrosion of high sulfur stocks, they have been operated for periods of nine months to a year with little or no attention to the packing.

The relative costs of installation and operation of different types of pumps, with the author's discussion, are of considerable interest to the refinery operator, are given in full below.

First Cost and Operating Cost

"A comparison of initial costs and operating costs of hot-oil

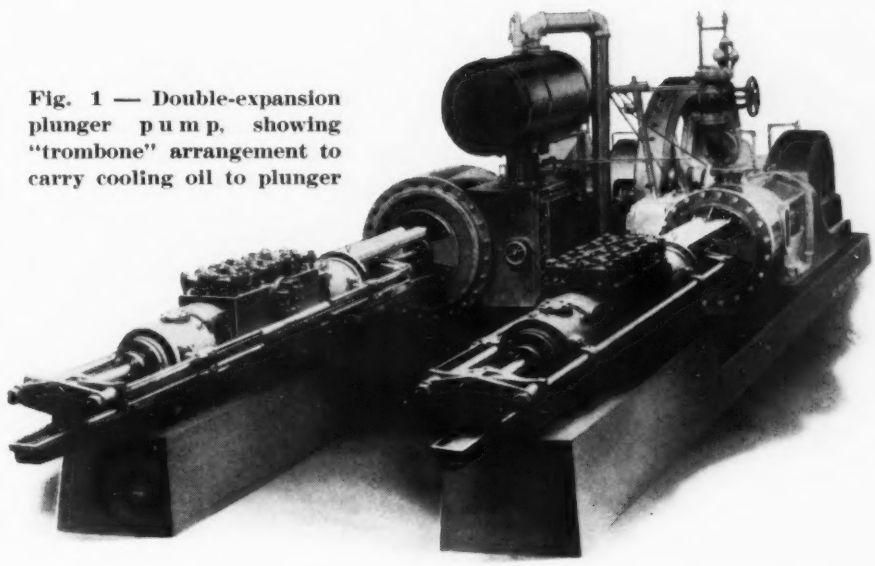


Fig. 1 — Double-expansion plunger pump, showing "trombone" arrangement to carry cooling oil to plunger

Table 1

Initial Cost of Hot-Oil Pumps

Type of pump	Exhaust	Cost erected
Simple, duplex, or twin-single	10 lb. back	$13,500
Centrifugal, turbine drive	Atmosphere	13,500
Centrifugal, motor drive		13,500
Centrifugal, turbine drive	Condensing	15,000
Power pump, motor drive		16,000
Compound duplex or twin-single	Atmosphere	16,400
Compound duplex or twin-single	Condensing	17,000
Crank and flywheel (cross-compound)	Atmosphere	21,800
Crank and flywheel (cross-compound)	Condensing	22,800

pumps of various types is given in Tables 1 and 2. Each type is proportioned for a capacity of 6500 barrels per day hot volume of oil delivered against a net discharge pressure of 1450 pounds per square inch steam pressure available for driving 100 pounds per square inch with exhaust as noted.

"The initial cost includes the pump, motor or turbine, jet condenser for condensing units, and erecting on foundations, but does not include foundations and building, as these last two items vary with location, soil conditions, and type of building used, i. e., brick or sheet metal.

"It will be noted that the cross-compound crank-and-flywheel pump is the most expensive in first cost; however, the saving effected in operation will show a high return on the additional investment for this type of pump. The operating cost, based on steam at 30 cents per 1000 pounds, condensing water at 1.1 cents per 1000 gallons, current at 1 cent per kilowatt-hour, is shown in Table 2. The total cost is given for 300 days (24 hours) per year.

"A complete comparative analysis of the operating cost of all the different types would be entirely too long to be taken up at this time, but a brief outline of the economical advantages of the crank-and-flywheel pump as compared with the three types which are lowest in initial cost will be given.

"The difference in initial cost of a cross-compound condensing crank-and-flywheel pump and the simple duplex, the centrifugal pump, either motor or non-condensing turbine driven, is $9300. The difference in operating cost in favor of the crank-and-flywheel pump and the simple duplex or twin-single pump is $20,020; centrifugal pump and non-condensing turbine $15,120; centrifugal pump, motor driven, $11,404 per year.

"This saving in operating cost would pay off the difference in the initial cost of the simple pump in 5½ months; centrifugal pump, turbine drive, 7½ months; centrifugal pump, motor drive, 10 months.

Assuming that the cost of the installation is to be written off in three years, we have:

	Crank and flywheel	Cent. and turbine	Cent. and motor
Initial cost of pump	$22,800	$13,500	$13,500
Cost of three years, operation	23,544	68,904	57,456
Total cost including operation	$46,344	$82,404	$70,956
Deduct cost of crank and flywheel		46,344	46,344
Total saving by using crank and flywheel		$36,060	$24,612

"Maintenance cost on all the above types are not available at this time so no attempt has been made to include this item

Table 2

Cost of Operating Hot-Oil Pumps

Type of pump	Exhaust	Operating cost
Crank and flywheel (cross-compound)	Condensing	$7,848
Crank and flywheel (cross-compound)	Atmosphere	9,720
Power pump, motor tor drive		11,376
Centrifugal pump, turbine drive	Condensing	14,356
Compound duplex or twin-single	Condensing	16,056
Centrifugal pump, motor drive		19,152
Centrifugal pump, turbine drive	Atmosphere	22,968
Compound duplex or twin-single	Atmosphere	25,848
Simple duplex or twin-single	10 lb. back	27,868

in the operating cost. However, crank and flywheel engines have in one year's operation required only five new rings of packing, representing a maintenance cost of approximately $20.

Following a discussion of the various factors which affect the operation of the pump, which factors are not controllable directly by designer or manufacturer, the author states that a majority of operating troubles can be traced to improper suction conditions. Short stroking, irregular speeds, excessive pulsation in discharge line, and reduced volumetric efficiency all can result from lack of proper attention to this detail of installation, he said. Lack of care in design and layout of discharge lines is also a fruitful source of trouble, in the au-

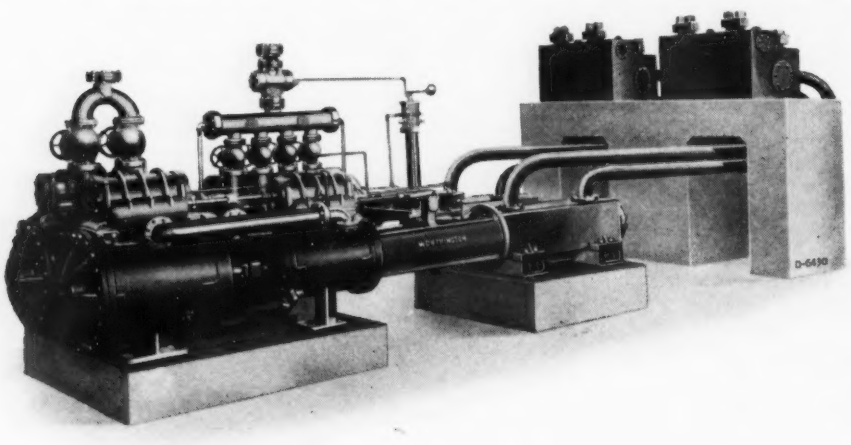


Fig. 2—Modern type of surge pump, for handling hot liquids

The Vilter Mfg. Co., Milwaukee, Wis., has published nine bulletins recently describing its refrigerating equipment, including its ammonia regenerators, and its types of ammonia compressors and condensers; also its line of multi-pass shell and tube brine coolers, control valves which is not fitted with any adjusting devices and employs neither springs or diaphragms; and its superflooded system of ammonia circulation.

These facilities mean FINE WORK—FAST DELIVERY

THE Limbert pipe bending shop, with abundant capacity, makes prompt delivery certain. But more than mere bigness, this unusual plant incorporates the most highly developed methods for accurate quality work. The equipment and methods used here are the result of a full third of a century of pipe fabricating experience.

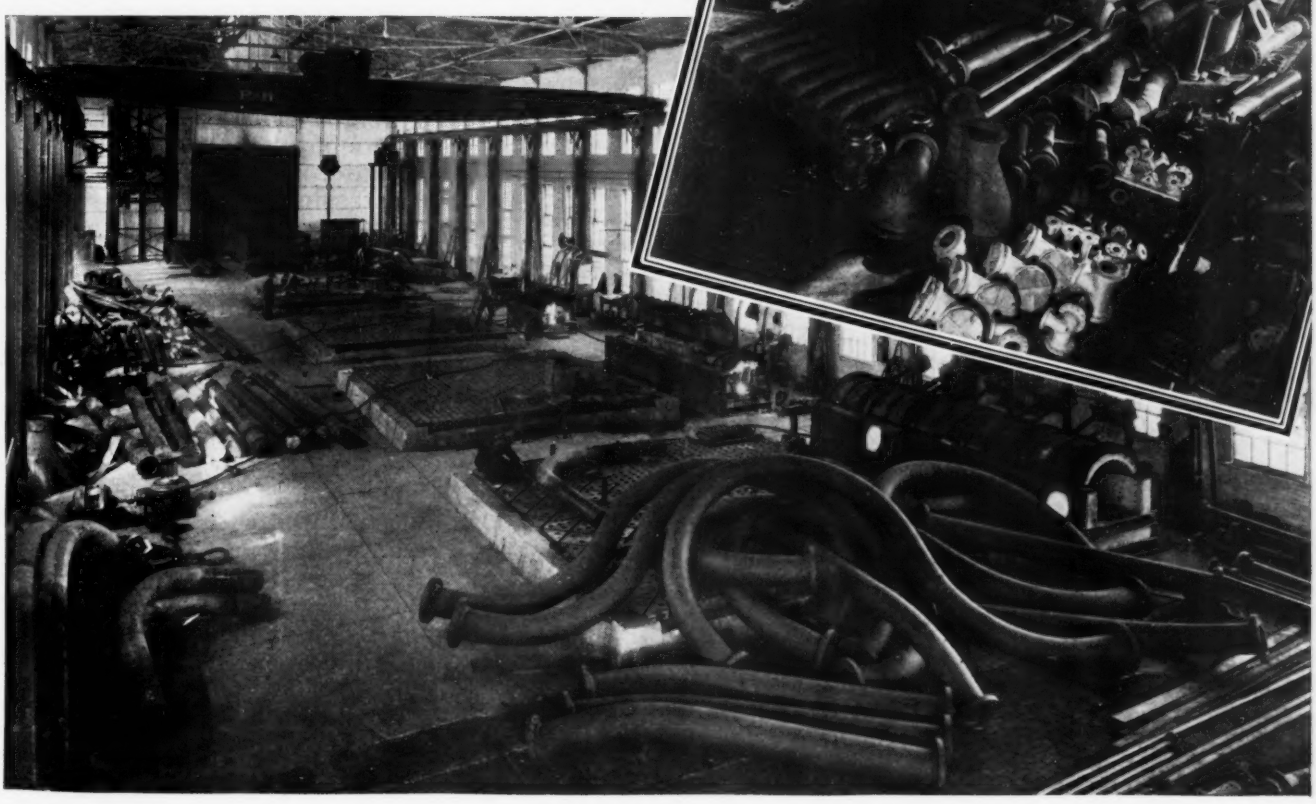
In this shop your most difficult job will be handled skillfully and promptly. The experienced engineers who design the material, and the mechanics who man the shop, know exactly what they are doing. Limbert facilities include the most modern specialized equipment for every phase of pipe and fitting fabrication in steel, iron, or welded construction. Every type of high pressure, high temperature pipe joint can be produced promptly.

LIMBERT PIPING

GEO. B. LIMBERT & CO.

562 Fulton St., Chicago, Ill.

St. Louis, Mo. Kansas City, Mo.
Detroit, Mich.



New Refining Patents

Vapor Phase Sweetening. U. S. P. 1,772,985, August 12, 1930, application filed March 1, 1928; Thaddeus W. Culmer, Assignor to Lincoln Oil Refining Co.

THE objects of this invention are to provide a form of solid reagent with which petroleum vapors may be treated to improve their color and odor and to increase their color stability. The essential feature is the use of one or more of the oxides of lead, zinc, manganese, copper or aluminum, fused with caustic soda formed in small aggregates having large surface area.

A preferred form of apparatus is shown in the drawing; the reaction chamber 1 is fitted with a perforated false bottom 2 and a drain trap 3. This trap serves to withdraw condensate, for return to the system, in cases in which condensation is permitted. The vapor inlet 4 is placed below the perforated plate 2, and a vapor outlet 5 is placed near the top of the opposite wall.

Most of the chamber space above the plate 2 is occupied by the reagent 6; and this space is surrounded by the heating jacket 7, supplied with flue gas which enters through the pipe 8 and is discharged through the pipe 9 after giving up enough heat to maintain the oil in the vapor phase. The reagent may be removed as required, or may be revivified in the chamber by contact with superheated steam or ammonia.

What is Claimed

Purifying hydrocarbon oils by contact of their vapors with an oxide of lead which has been fused with aluminum hydroxide and caustic soda.

* * *

Molybdenum From Oil. U. S. P. 1,772,960, August 12, 1930, application filed May 20, 1929; Alfred Oberle.

IT HAS been found that some oils contain appreciable amounts of molybdenum, which is a relatively precious metal with limited sources of supply. A system has therefore been developed for recovering this molybdenum from carbonaceous petroleum residues, from flue gases where fuel oils are burned, and from exhaust gases of Diesel or like oil-burning engines.

In the case of petroleum coke and the like, the material is roasted and at a proper stage is leached with water or steam, in which the molybdenum compounds readily dissolve. Flue gases are preferable passed through an absorption tower, containing activated carbon, ashes, coke, fullers earth or other absorption agent.

Such an agent may also be used in treatment of petroleum coke or the like. Exhaust gases from engines are passed through water, or through an absorption trap in the exhaust line. The molybdenum is recovered from the absorption agent by leaching with water.

What is Claimed

Extracting molybdenum from petroleum hydrocarbons by heat treating a residual cokey hydrocarbon in, presence of an absorptive material, driving off the volatile material, and leaching with a solvent for molybdenum compounds, and finally separating the molybdenum from the solution.

* * *

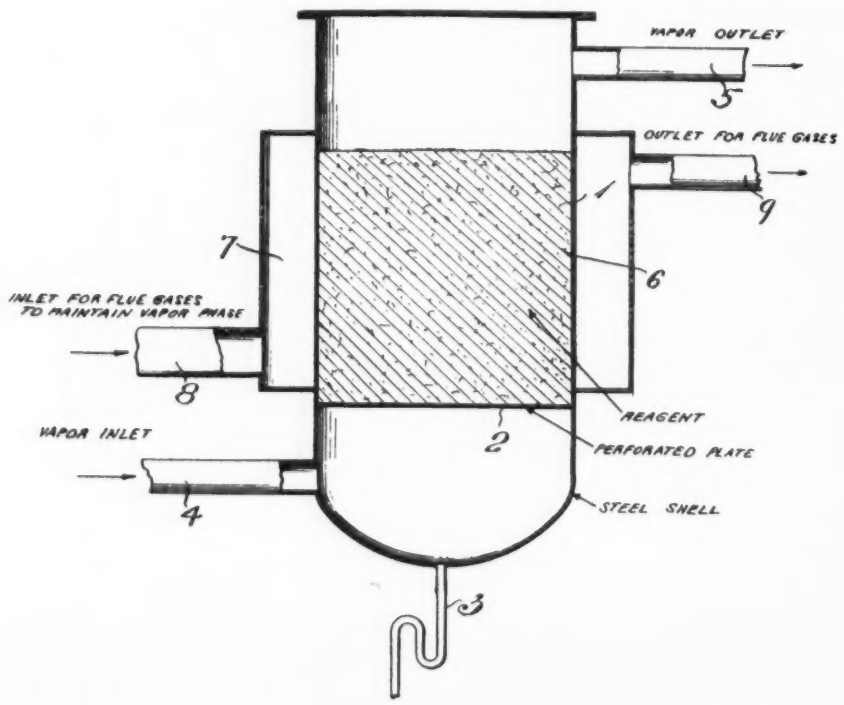
Breaking Emulsions. U. S. P. 1,771,096, July 22, 1930, application filed Sept. 2, 1926, Frederick H. Penn.

AS an improvement in the art of breaking naturally occurring petroleum emulsions, it has been found that certain salts of strong acids with weak bases are effective de-emulsifiers, if used with a suitable proportion of an alkali. The preferred composition for the new de-emulsifying agent is: sal ammoniac 2 parts and sodium hydroxide 10 parts by weight. Other salts, e. g. ammonium sulfate or phosphate, and other bases, e. g. potassium hydroxide or hydrated lime, are also suitable.

In using the new agent, it is preferable to add with it a solvent which is also a solvent for that phase of the emulsion in which the reagent is insoluble. For this solvent it is satisfactory to use commercial grain alcohol, 10 parts by weight to 100 parts of the de-emulsifier. The alcohol is to be diluted with twice its weight of water.

What is Claimed

Resolving mineral oil and water emulsions by adding ammonium chloride, sodium hydroxide and alcohol, and causing the reagent to act upon the emulsion until the emulsion is resolved.



Vapor Recovery Is Individual Problem In Each Refining Plant

By G. M. Jackson*

(Presented before American Society of Mechanical Engineers, Tulsa, Oct. 6-8)

IN RECENT years many refiners have been callous, in varying degrees, about vapor losses. Many refiners have installed systems to recover rich gases from tanks, look boxes, etc, without giving thought to the possible prevention of the formation of these vapors at the source. Some have recovered these rich vapors and neglected the relatively leaner gases from cracking units. Very few refiners have made a careful, balanced survey with a view to preventing vapor loss.

During the last few years much progress has been made in the rapid and accurate quantitative analysis of gasoline vapors and so-called dry gases. It is now possible to predict with certainty the savings which can be made by changes in handling methods, in fractionation of pressure distillate, or in proper treatment of the gases. Calculation methods have progressed until now it is entirely feasible to calculate from preliminary analyses complete material balances for different methods of operation, which show the quantities of the various constituents which can be recovered and which make possible the accurate calculation of the cost of recovery. Equipment can now be accurately selected, the calculations being entirely rational and based on the analysis obtained in the preliminary survey.

Before attempting to develop the recovery process, the refiner should make a careful study, not only of the quantity of gas from each source, but also its cause and the reason for its gasoline content. Several refineries are now making substantial economies by taking cracked gasoline directly from the cracking-unit accumulators to debutanizing units, which remove enough light fractions to prevent loss in treating, rerunning, or other handling of the remainder. The light fractions distilled off in this manner rarely require any further treatment which cannot be successfully accomplished under pressure with inappreciable loss.

*President, Jackson Engineering Corporation. Presented at the National Petroleum meeting, Tulsa, Okla., October 6 to 8, 1930, of The American Society of Mechanical Engineers.

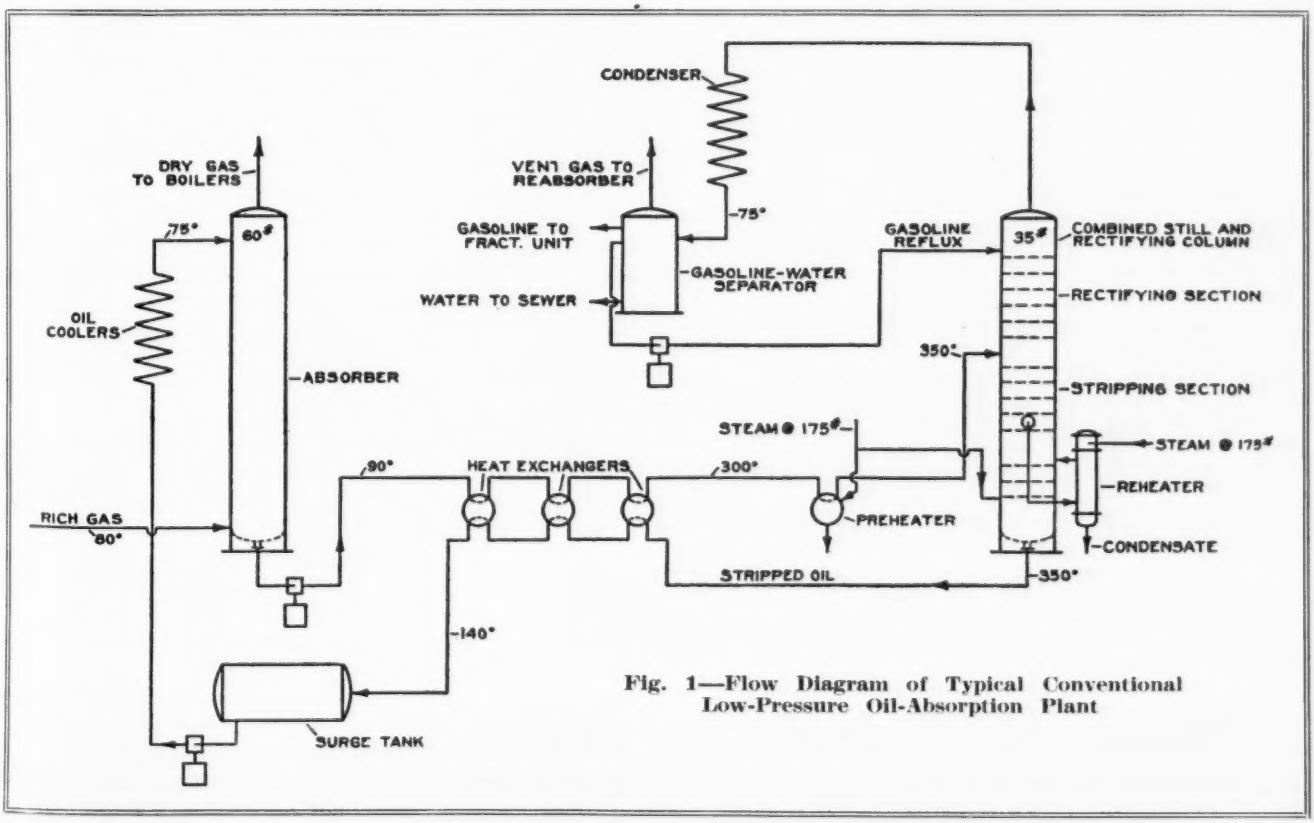


Fig. 1—Flow Diagram of Typical Conventional Low-Pressure Oil-Absorption Plant

New Operating Methods

An average of two articles per issue of National Petroleum News, have discussed new operating methods and solutions to problems facing operators in the oil fields.

What operators are doing to cut costs, new methods and ingenious devices for more efficient work, and other features, are told in these articles.

Here are 77 that have appeared in the past year in National Petroleum News for your file reference:

1930

Economic limit of gas lift may come to Oklahoma City Aug. 13, p. 52
Open type water heaters best for oil fields Aug. 13, p. 44
Suspension bridge for rod line lengthens stroke Aug. 6, p. 48
Methods of developing and producing in Oklahoma City July 16, p. 59; July 9, p. 55; July 2, p. 55
Metered gathering system reduces costs June 25, p. 52
Planning of lease hook-ups needed in modern development June 25, p. 61
Tapered tubing used in Oklahoma City well June 18, p. 48
Hydraulic lift increases small well yields June 18, p. 56
Caissons support California off-shore leases June 18, p. 26
Materials used as admixtures in rotary mud June 4, p. 61
Systematic crude handling stops vapor losses May 28, p. 71
Tractor on truck aids well pulling May 28, p. 77
Pumping of deep, crooked holes discussed May 28, p. 40
New device reduces sand cutting at Oklahoma City May 21, p. 66
Jacks and junk effect economies in old lease operation May 21, p. 67
Central pumping power pays for itself in salvaged equipment May 14, p. 56
Globe flow head resists sand blast at well May 14, p. 61
Selection and application of pump packing May 7, p. 61
Gas lift safety methods May 7, p. 61
May flow water wells with gas in California Apr. 30, p. 32
Electric robots make automatic control of pumping wells safe Apr. 30, p. 56
Liquid meter used on flowing oil well Apr. 23, p. 58
Tractor-scraper to build slush pit wall Apr. 23, p. 58
Steam outfits replace gas engines Apr. 23, p. 59
Tries water tube boiler in field Apr. 23, p. 59
New rules for bringing in new wells Apr. 16, p. 40-E
Heaters for treating oil replaces boilers Apr. 16, p. 57
How prorating practice promotes efficiency Apr. 16, p. 40-H
Declination recorders measure drill-hole Apr. 16, p. 61
Possibilities and practical problems of storing natural gas in depleted structures Apr. 16, p. 42, 43
Problems in air-gas injection studied Apr. 9, p. 41
Do's and don'ts in oil well shooting Apr. 9, p. 62
Shaft-driven hydraulic rotary starts first hole in Mid-Continent March 26, p. 67
Crookedness of California wells cut 50% in 1929 March 26, p. 53
Handling high pressures at Oklahoma City March 19, p. 88
First repressuring of depleted sand attempted Feb. 19, p. 46
Wyoming operators to use one stratum at a time Feb. 19, p. 43
Open flow tests show lower potentials in Santa Fe Springs Feb. 19, p. 44
Developments in flooding at Bradford-Richburg Feb. 19, p. 30
Well gains after being "graveled" Feb. 12, p. 49
Central power pumping discussed at El Dorado Feb. 12, p. 43
Deep oil drilling makes contracting big business Feb. 5, p. 59
Crooked holes give little trouble in Oklahoma City Jan. 29, p. 48
Long operation simplified by driftmeter, electric well surveying device Jan. 29, p. 57
Pressure control on small flowing well important Jan. 29, p. 59
Well spacing observations in Salt Creek Jan. 22, p. 49
Deep sand development in Salt Creek Jan. 8, p. 50
Prime mover costs kept low by record system Jan. 8, p. 57
Theoretical aspects of oil well spacing Jan. 1, p. 49
Rolling rig method for coating pipe Jan. 1, p. 58

1929

Operator fishes when trouble visits well Dec. 25, p. 57
Repressuring at peak doubles lease return Dec. 25, p. 59
Fault in structure provides channel for water Dec. 18, p. 58
Capping a wild one in Kettleman Hills Dec. 18, p. 62
Oil treating discussed at El Dorado meeting Dec. 11, p. 32
High gas volumes handled in repressuring work Dec. 11, p. 44
Straight hole drilling practice Dec. 11, p. 45
Hole kept straight by mud fluid pressure in bottom joints Dec. 11, p. 75
Repressuring covers wide range in A.P.I. papers Dec. 11, p. 65
Experiments needed to find proper chokes Dec. 4, p. 73
Shot in well tamped with cement plug gives good results Dec. 4, p. 82
Tonkawa field men discuss repressuring Nov. 27, p. 39
Speed and power needed in oil well tractor Nov. 27, p. 40
How to dispose of salt water, engineers tell Nov. 27, p. 40
Factors governing spacing of wells Nov. 27, p. 59
Automatically controlled station may eliminate pumper Nov. 13, p. 50
Prize winning stories in field men's contest Nov. 6, p. 25; Oct. 30, p. 50
Cement head avoids air pocketing Oct. 30, p. 238
Modern practice of drilling thru big gas formations Oct. 16, p. 56
Methods of tubing high pressure wells Oct. 9, p. 48-F
Exploiting oil bearing structures by unit operation Oct. 9, p. 48-K
Repressuring in depleted oil zones Oct. 9, p. 48-P
Repressuring practice in Mid-Continent Oct. 9, p. 48-B
How ultimate recovery is influenced by delayed development Oct 2, p. 65

Back copies of any of the above issues are 25c a copy. On issues that are exhausted, photostats will be furnished at 40c per page. Libraries in the larger cities generally keep back files of National Petroleum News complete.

National Petroleum News

Main Office: 1213 West Third St. ***Cleveland, Ohio***

The advisability of making such an installation should be definitely decided before proceeding with the recovery process, as the composition, quantity, and available pressure of both the uncondensed gases and liquid gasoline taken overhead from such units should have great influence on the design of the recovery plant and final stabilizer.

Having the quantities, compositions, and pressures of all available gas supplies definitely established, the refiner must next consider the utilization of gasoline constituents before proceeding with the recovery process. In the majority of cases, either with or without making minor adjustments in the refinery processes, it is possible and economical to utilize all of the butane which can be recovered from the gas at a cost less than the cost of finished gasoline. This question is of the utmost importance in the determination of the recovery process, as the cost of the plant increases rapidly with increase in the percentage of butane extraction. The propane should also be given serious consideration, as there is a rising available market for liquid propane. Large quantities of propane are frequently available and can be recovered simultaneously with the gasoline constituents. The quantity of propane which can be marketed and its value in the refinery should therefore be carefully predetermined.

With the two general subjects of debutanization and the utilization of recoverable products satisfactorily dealt with, the refiner can now proceed to gather the following facts more obviously connected with the plant design:

- Location of gas sources
- Quantity, pressure, and composition of gas from each source
- Value of exhaust steam, high-pressure steam, cooling water, residue gas, electric power
- Temperature of cooling water, pressure of exhaust steam and high-pressure steam, requisite pressure of residue gas
- Value and characteristics of various absorption oils
- Ground space available
- Corrosive properties of gas and cooling water

Effect of compression on corrosive properties of gas

Unusual material specifications which might affect equipment costs

Existing equipment which might be utilized to advantage in the new system

Interest and depreciation rates to be used in determining annual operating cost

Wage rates of operating personnel

Administrative burden chargeable against gasoline plant

Prospects of refinery expansion which may require extension of recovery system.

With all of these facts before him, the process engineer must now estimate the approximate costs of available processes. Before proceeding further it is usually advantageous to develop the following operating costs:

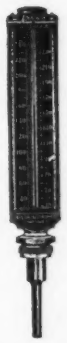
1 Cost of pumping absorption oil against pressures from 30 to 300 lb.

2 Cost of compressing gas from available suction pressures from 15 to 250 lb.

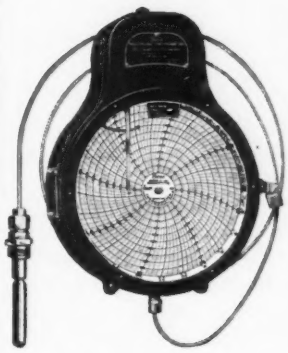
This information should now make possible a preliminary estimate on which can be based comparative costs of different percentages of gasoline extraction from the gas. The controlling factor in most plants is the butane. If the recoverable butane can be used and if its value is considered equal to that of the heavier constituents, then it is usually considered economical to recover at least 90 per cent of the butane in the gas. Occasionally low butane content, low cost of power for pumping oil, low cost of compressing gas, minimum corrosion expense, and other factors reduce the operating cost so that it becomes worth while to recover as high as 95 per cent of the butane, although such a plant may cost 20 per cent more than a plant for recovering 90 per cent.

The next important decision to be made is what absorption pressure to use, as the required rate of oil circulation decreases rapidly with increased pressure. Before endeavoring to find the economic point at which the increased annual cost of compressing offsets the saving in the absorption plant, the absorp-

Tycos **Instruments**



Tycos Industrial Thermometer



Tycos Recording Thermometer

The Tycos Recording Temperature Regulator

For the measurement and control of temperatures and pressures in crude oil production, refining and natural gasoline manufacture, *Tycos* Instruments play a leading part from the time the crude oil is taken from the ground until its refined components are put on the market in the form of gasoline, kerosene, fuel oil, high grade lubricants, paraffin wax and finished petroleum salves.

Tycos Industrial Thermometers, Recording Thermometers, Indicating and Recording Pyrometers, Recording Pressure Gauges and Temperature and Pressure Regulators have proven their worth through hard and continuous service under the most exacting conditions.

The satisfactory performance and reliability of these *Tycos* Instruments are shown by the hundreds of installations throughout the petroleum industry.

Taylor
Instrument Companies
ROCHESTER, N. Y., U. S. A.

CANADIAN PLANT
TYCOS BUILDING
TORONTO

MANUFACTURING DISTRIBUTORS
IN GREAT BRITAIN
SHORT & MASON, LTD., LONDON, E-17

Tycos
Temperature Instruments
INDICATING-RECORDING-CONTROLLING

BETHLEHEM
WAX PLANT EQUIPMENT

Filter Presses
Wax Distillate Chilling Machines
Wax Testing Presses
Wax Moulding Presses
Scale Wax Cooling Drums
Paraffine Wax Sweater Plants
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers, and other Oil Refinery Equipment
Oil Burning Systems

BETHLEHEM STEEL COMPANY, *General Offices: Bethlehem, Pa.*

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St Louis

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu

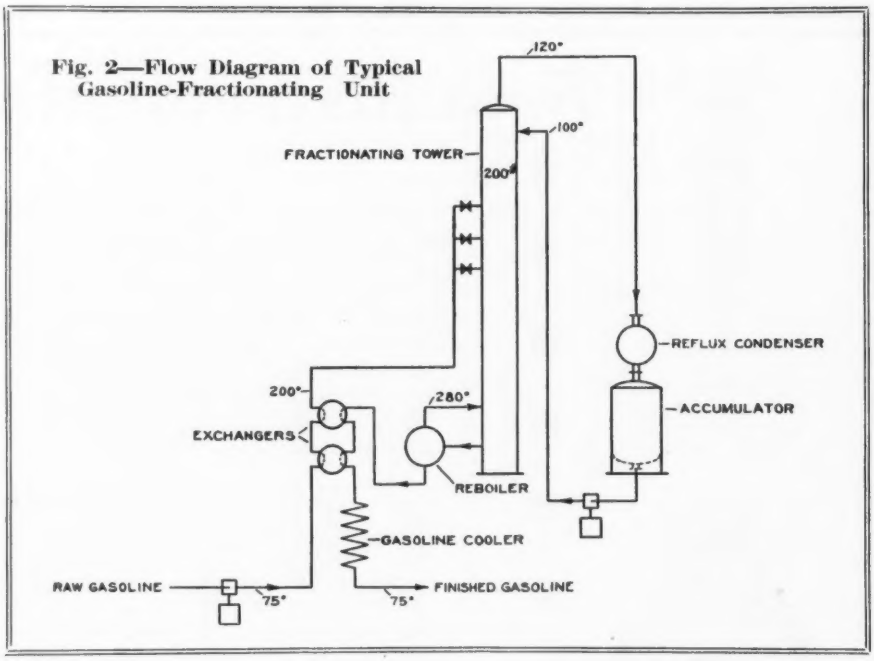


Fig. 2—Flow Diagram of Typical Gasoline-Fractionating Unit

tion oil to be used must be definitely determined, as the quantity required, and hence the operating cost and first cost of the absorption plant, will vary widely, depending on the oil characteristics. There is still much to be learned as to the desirable characteristics of absorption oil. The viscosity should be low to promote turbulence and corresponding high transfer rates and low pressure drops in exchange equipment. The oil should be of a narrow boiling range, preferably between 375 and 500 deg. fahr. The molecular weight should be low, good practice calling for about 180 to 200, as (other conditions being constant) the oil circulation will be directly proportional to the molecular weight. As unnecessary oil circulation adds to the investment in practically all parts of the plant, as well as the operating costs of pumping, heating, cooling, stripping, and supplying make-up, it can readily be seen that it is worth while to provide suitable oil. It should be kept in mind, however, that the characteristics of the oil may change in service. It is advisable therefore, to select an oil which can be economically replaced. There is a wide diversity of absorber pressures now in use by our largest refineries, varying from 15 lb. to 250 lb. in recent installations to the author's knowledge. Needless to say, the controlling conditions in the different refineries vary widely and justify the pressures used. The general consensus of opinion, at the present time, seems to be that absorption pressures between 35 and 80 lb. are most economical. The tendency is to use pressures from 60 to 80 lb. for high butane extraction, such as 90 per cent or more, and about 35 lb. for relatively low butane extraction.

There is considerable variety in the method which may be applied in extracting the gasoline from the oil. If the percentages of methane, ethane, and propane in the rich oil are relatively high, it will usually be advisable to provide a suitable vent to eliminate as much of the light material as possible without serious loss of desired fractions before the distillation takes place. If a large percentage of these so-called fixed gases remains in the oil to flash in the still, their presence in the condensers necessitates high condenser pressure or uneconomical reabsorption. High pressure can be obtained either by high still pressure or recompression. Recompression is fundamentally undesirable if avoidable, as it adds first cost, operating cost, ground space, and an element of operating fallibility which can be eliminated only by installing a spare recompressor at further added cost. High still pressure, if applied to a single-column distillation system, is objectionable because the steam consumption (which varies with distillation pressure) becomes excessive, and exhaust steam, which is frequently available, cannot be used.

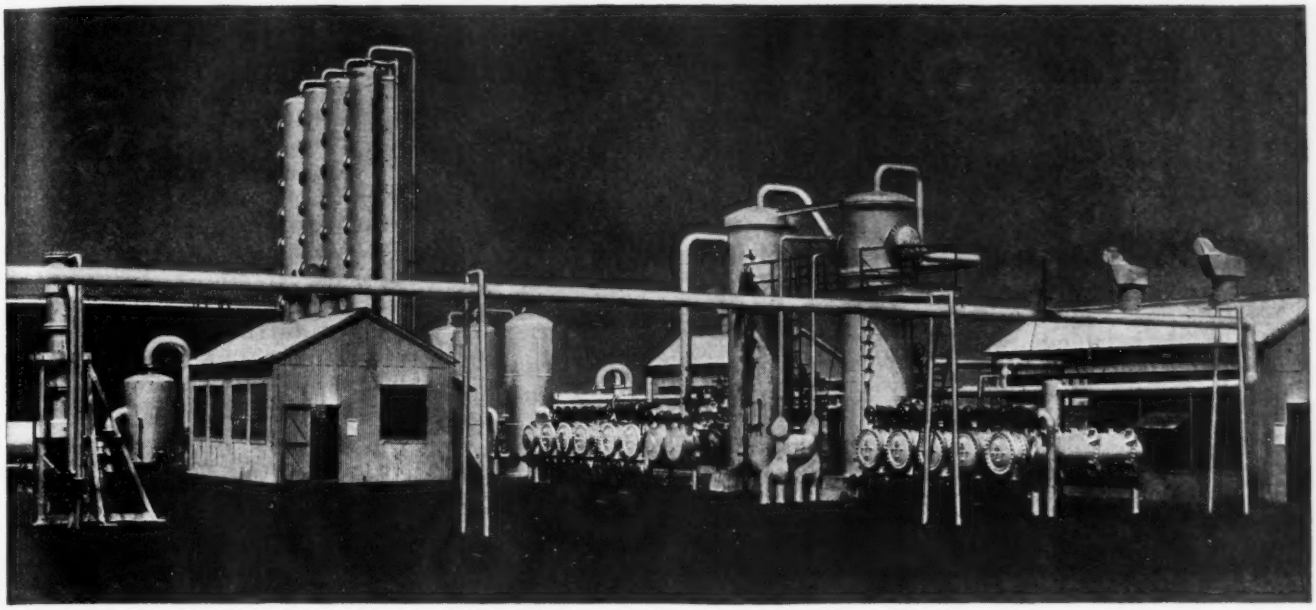
One difficulty which frequently complicates the distilling problem is that the butane extracted is often more than all of the heavier gasoline constituents combined. If the oil is distilled in a single column at low pressure (5 to 10 lb.) to make possible the use of exhaust steam for stripping, recompression will be essential to obtain butane condensation at normal temperatures. If the oil is distilled at 30 to 50 lb., reabsorption may be applied, but in many cases the circulation required for high butane extraction will be excessive. Recompression may be applied much more economically at this higher pressure than with tail vapors at 10 lb., but the steam consumption of the single high-pressure still is excessive if the oil be thoroughly stripped at temperatures available with steam heating. In such cases a very economical solution is the use of two stills in series, the first one operated at, say, 60 to 80 lb. and removing a large proportion of the lighter ends of the gasoline. This will of course require very little high-pressure steam, and the pressure will insure practically complete butane condensation, particularly if the rich oil has been vented to eliminate as much of the fixed gas as possible. The second still can then be operated at 5 to 10 lb., making possible the use of exhaust steam for stripping the heavy ends.

* * *

Design of Equipment

Much greater attention should be paid to refinements of design in refinery plants than is usually considered justified for field equipment. As corrosion is frequently severe in the refinery, it is advisable to design all equipment for convenient accessibility and replacement of attacked parts. The relatively small increase in first cost to make the interiors of equipment accessible is easily justified, as equipment can be counted on to remain in useful operation over a relatively long period compared with equipment in field service. Bubble towers should either have removable plates packed into shells or should be

An Entire Installation made with TUBE-TURNS *exclusively*



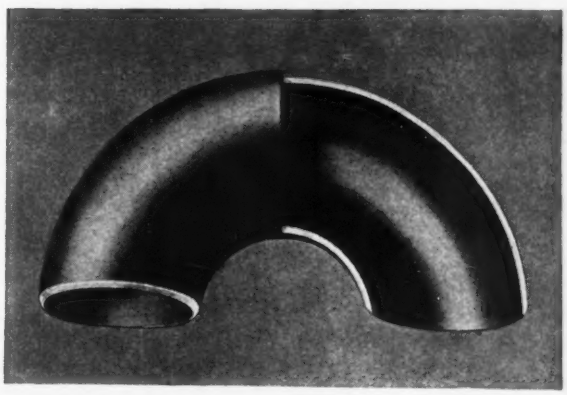
THIS photograph shows a modern natural-gasoline plant in which EVERY fitting is a Tube-Turn.

Study the smooth, short-radius turns—the easy, free-flowing curves possible only with Tube-Turns. Then remember the things that don't photograph—that Tube-Turns are lighter, stronger, easier to install, easier to insulate, cause less pressure-drop and form tighter, *permanent* jobs.

Two years ago Tube-Turns were practically unknown. Today they are in constant use by almost EVERY important process industry.

If you have never heard the complete Tube-Turn story, we earnestly urge you to write for Bulletin No. 104. You will be amazed at the overwhelming superiority of Tube-Turns and welding for all your process piping. No obligation, of course. *Address:* TUBE-TURNS, *Incorporated,* 1321 S. Shelby St., Louisville, Ky.

Tube-Turns are short-radius fittings for pipe welding. Absolutely uniform walls—no thickening, no thinning, no buckling. Full, round cross-section. Greater strength. Less pressure-drop. NO LEAKS. Get all the facts TODAY.



TUBE-TURNS

The Stock Fittings for Pipe Welding

DISTRIBUTORS IN:

Atlanta	Birmingham	Cincinnati	Fort Worth	Kansas City	Philadelphia	St. Mary's
Baltimore	Buffalo	Cleveland	Grand Rapids	Los Angeles	Pittsburgh	San Francisco
	Cambridge	Dayton	Hartford	Maracaibo	Portland	Seattle
	Charleston	Detroit	Honolulu	Milwaukee	Providence	Tacoma
	Charlotte	Fall River	Houston	Minneapolis	Richmond	Toledo
	Chicago	Fort Wayne	Indianapolis	New York	St. Louis	Tulsa

AMERICAN PETROLEUM REFINING

by

H. S. Bell

HAVE you seen the new edition of AMERICAN PETROLEUM REFINING just out? Every detail of refinery practice is brought down-to-date in this one volume.

Among the outstanding recent developments, Mr. Bell goes thoroughly into vapor phase cracking, production of high compression gasoline, the development of modern pipe stills, use of Diesel engines in oil pumping, chemical cracking with aluminum chloride, new methods of treating lubricating oils and light oils, removing of amorphous waxes to allow manufacture of low cold test lubricants, distillation, fractionation, methods of testing, plant design, storage of oil, volume measurements, etc.

In AMERICAN PETROLEUM REFINING you have a complete analysis of refinery operation, engineering, plant management and equipment design of the modern oil refinery.

If you are a refinery superintendent, engineer. chemist, construction foreman or ambitious refinery employee—you will find this new volume by H. S. Bell, consulting engineer, of inestimable value in your work.

Get your copy of AMERICAN PETROLEUM REFINING today!

550 pages Illustrated $6 postpaid

NATIONAL PETROLEUM NEWS
Penton Bldg., Cleveland, Ohio

Send me the new edition of AMERICAN PETROLEUM REFINING by H. S. Bell. Enclosed is $6.

NAME .....

Street .....

City-State.....

provided liberally with manholes for access to the plates. Inasmuch as warping of steel bubble plates of adequate thickness and properly installed is negligible at the temperatures found in recovery plants, there seems to be little to choose between cast iron and steel. Good practice seems to be to use cast iron as much as possible in the construction of bubble caps, throats, seals, down-pipes, and other interior parts.

The exact design of bubble plates seems to make relatively little difference, provided the essentials of good plate design are adhered to. Ample down-pipe capacity must be provided. Particularly in absorbers, ample weir length or overflow periphery is required to break up the foam and prevent building up above normal liquid level. The number and spacing of plates are of far greater importance than small points of difference in plate design. No greater folly has been committed in the design of absorption plants by equipment manufacturers and refinery engineers than skimping the number of bubble plates in absorbers, stripping towers, and fractionating columns.

In absorbers, an insufficient number of plates inevitably necessitates the circulation of excess oil, resulting in absorption of increased amounts of fixed gases. The addition of these fixed gases sets up a train of harmful conditions including:

1 Increased pressure drop through heat-exchange equipment
2 Reduction of transfer rate and partial pressure of gasoline constituents in condensers
3 Increased load on recompressor or reabsorber.

The additional oil circulation increases:

1 Cost of all distillation-unit equipment
2 Cost of pumping oil
3 Cost steam for stripping oil
4 Cost of cooling water for cooling oil and condensing the added steam.

Compared with all these additional costs, the expense of a few additional plates in the absorbers is negligible.

The number of plates required in absorbers depends partly on plate efficiency, but chiefly on the butane extraction desired. A minimum number of 16 plates is strongly recommended for butane extraction of less than 50 per cent. In general, in refineries desiring high butane extraction, say 80 to 95 per cent, absorbers should have at least 24 plates, and it is the opinion of several excellent refining engineers that as many as 30 plates are justified for the extraction of 90 to 95 per cent of the butane from the gas.

When high saturation of the rich oil may cause extreme temperature rises, say more than 20 to 25 deg., it is sometimes economical to apply intercooling in the absorbers. By maintaining a relatively low temperature throughout the tower, the partial pressure of the butane in the rich oil is kept relatively low.

To obtain reasonable operating economy, it is absolutely necessary to have a thoroughly efficient stripping column. No matter how perfect the absorbers may be and no matter how much oil is circulated, efficient extraction of the gasoline from the gas is impossible unless the oil is thoroughly denuded. Insufficient stripping plates will necessitate the use of excess direct steam. Most refiners and manufacturers are now agreed that 7 or 8 stripping plates should be used. The inlet-oil temperature is not highly important, but should be within say, 20 to 40 deg. of the temperature of available heating steam. The temperature of the oil when contacted with the steam near the base of the column is of far greater importance, as it is the oil temperature at the point where the extraction of the heavy end of the gasoline takes place which controls the quantity of direct steam used. If the quantity of gasoline to be removed is relatively low and if the oil is heavy, it is probably economical to introduce the oil at a temperature within 15 to 20 deg. of available heating-steam temperature, without applying reheating in the column, as in such cases the temperature drop in the column will be relatively small. If, however, the quantity of gasoline to be removed is relatively high and if the oil is light, in which case a considerable amount of the oil will distil off, the tempera-

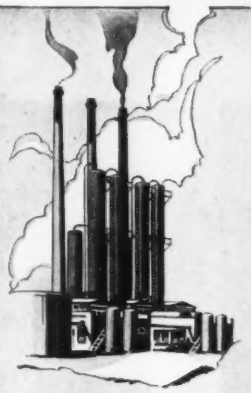
ture on the lower plates should be raised by reheating. As the only purpose in reheating is to reduce the quantity of steam required for stripping the *heavy* ends, it is obvious that the oil should be reheated after the temperature lowering due to distillation of the light ends but before final contact with the steam. This is best accomplished by locating the reheater well down the column, but above at least two or three of the final stripping plates. The practice of heating internally in the column is not recommended. Heating surfaces may require inspection, cleaning, or replacement due to corrosion. With the heater in the still, such work will require a plant shutdown. An outside heater can be bypassed with only temporary reduction of economy due to increased direct steam while the heater is being bypassed.

The rectifying column is of great importance, particularly if light oil is used. The best location seems to be above the still and built into the same tower. Ample rectifying plates should be provided to insure returning all of the evaporated absorption oil to the still with a minimum of gasoline. Good practice calls for about 8 rectifying and control plates. End-point control can be accomplished by pumping back gasoline, by condensation in direct contact with cool water above the rectifying plates, or by the use of a tubular reflux condenser at the top of the column. As there is rarely any place to utilize the heat from the reflux condenser, cooling water is generally pumped through it. This frequently results in the scaling of tubes, and unless a spare is provided shutdown becomes necessary for cleaning. Gasoline pumpback is recommended for the majority of conditions, as final condensers are habitually installed in parallel units insuring regularity of reflux supply.

Cooling Equipment

Two general types of cooling equipment are in use in recently installed recovery plants, both giving excellent results. Open-type atmospheric coolers of the self-scaling type have an undoubted advantage in cases where loose silt or brittle scale are likely to deposit. Closed

ZERO TEST LUBES ARE WANTED!



Bulletins on low temperature work are to be had for the asking.

It's the premium product... the lubricant which is free from waxy residues... that the public wants!

Whether for use in the crankcase of a pleasure car or truck... or to make the wheels of industry whirl more smoothly... the one big fact is that oils free from wax-like substances are wanted!

Waxless lubes are the product of refineries equipped with refrigeration ... plants capable of reaching temperatures of 40° to 60° below zero, Fahr.

Vilter has a long experience in this work... knows refrigeration for the refiner... and stands ready to give you the benefit of all that has been learned in experiment and in actual installation. If you are considering changing over or a new installation, write our Engineering Dept!

THE VILTER MANUFACTURING CO.
1079 CLINTON ST. :: MILWAUKEE, WIS.

108-30

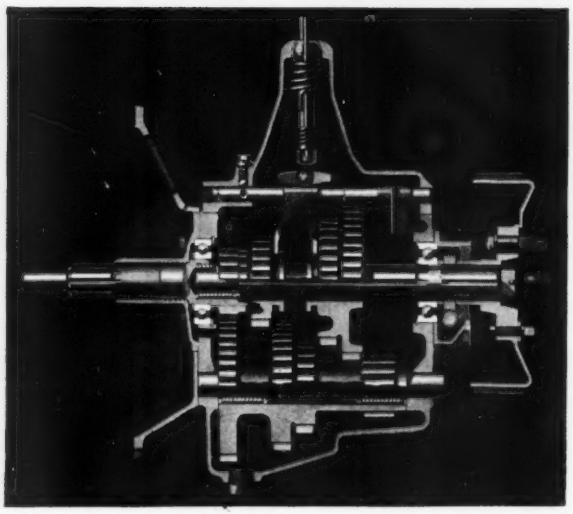
Vilter
ICE-MAKING AND REFRIGERATING MACHINERY

Gray Treating Towers

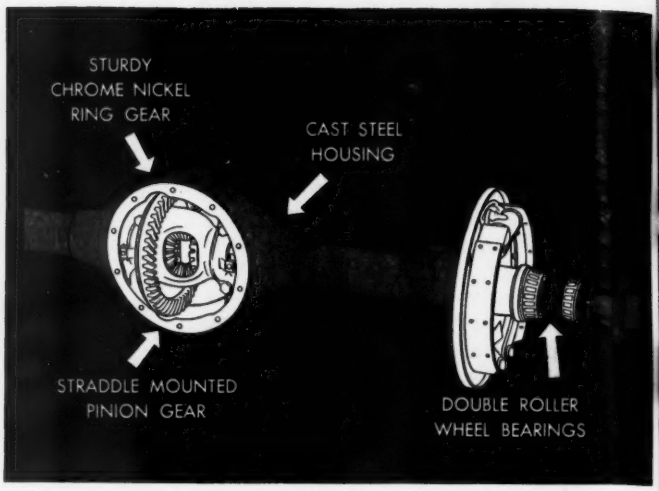
THE M. W. KELLOGG CO.
225 Broadway • New York

Tulsa, Okla. ..... *Philtower Bldg.*
Los Angeles, Cal. ..... *1031 So. Broadway*

Compare

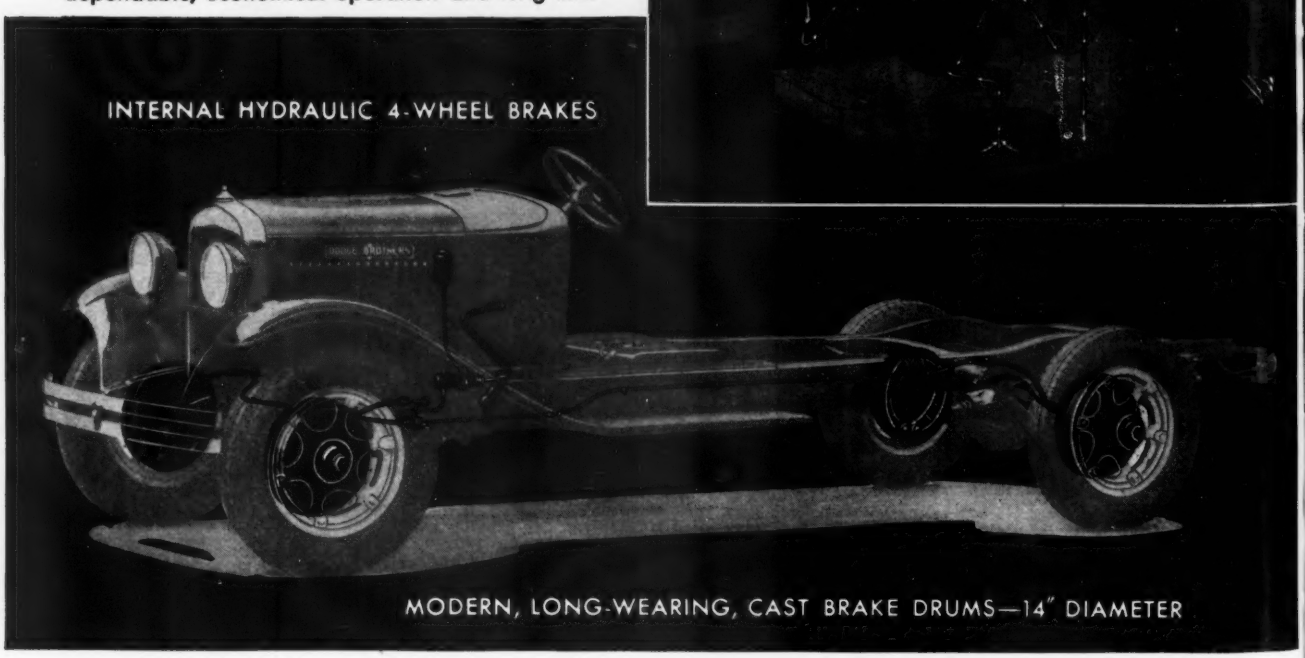


Sturdy, 4-speed transmission insures ample power for hill or hole, and speed for the open road or get-a-way.



With this more costly full-floating rear axle, shafts transmit power solely—and may be quickly replaced without removal of wheels or use of jack.

Full force-feed engine lubrication contributes to dependable, economical operation and long life.



4-wheel internal hydraulic brakes provide safe, sure stopping to match the truck's time-saving acceleration.

THE COMPLETE LINE OF DODGE TRUCKS RANGES IN

the 1½ ton DODGE TRUCK

TS FULL-FLOATING REAR AXLE . . . INTERNAL HYDRAULIC 4-WHEEL BRAKES . . . 48-HORSEPOWER TRUCK ENGINE . . . 4-SPEED TRANSMISSION . . . AND MANY OTHER MODERN FEATURES. BUY IT COMPLETE WITH STANDARD OR SPECIAL BODY TO FIT YOUR NEEDS.

$595

F. O. B. DETROIT . . . DUAL REAR WHEELS AT SLIGHT EXTRA COST

CAPACITIES FROM 1000 POUNDS TO 11,800 POUNDS

coolers are sometimes more convenient and compact where ample good cooling water is available. Good practice calls for cooling circulating oil to within 5 to 6 deg. of cooling-water temperature. As recently pointed out by Mr. A. Kremser in a paper before the California Natural Gas Association, 1 deg. fahr. of temperature reduction corresponds to approximately 2 per cent of saving in oil circulation. This simple relation should be of great assistance to the refinery engineer in justifying the expense of an oil-cooling system designed for a close approach to water temperature. Oil coolers should invariably be installed with bypass to permit cleaning individual coolers without shutting down the plant. Heads or water boxes should be designed with cover plates, permitting access to tubes without breaking pipe connections.

* * *

Conclusion

Each refinery presents a distinct problem, and there is no single solution which will necessarily give economy. Opportunity should be given to competent engineering authorities to study all the conditions which may affect the plant design. Once determined the controlling conditions should be thoroughly discussed with an experienced specialist and the process carefully developed to meet the existing conditions. Standardized plants and standard flows should be avoided, and each part of the system made to justify itself from the standpoint of operating economy throughout the probable life of the plant.

NEW PATENTS

Prepared by R. E. Burnham, patent and trade-mark attorney, 1343 H Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

August 26, 1930

PRODUCTION

Method of and device for cementing oil wells—Alexander Boynton, San Antonio, Tex. Filed Oct. 1, 1925. No. 1,773,941.

Automatic stage-lift flowing device—Alexander Boynton, San Antonio, Tex. Filed June 1, 1927. No. 1,773,942.

Stage-lift flowing device—Alexander Boynton, San Antonio, Tex. Filed Nov. 16, 1927. No. 1,773,943.

Fishing-tool—Lewis F. Davis, Santa Ana, Calif. Filed May 16, 1928. No. 1,773,962.

Tubing for oil wells—Hugh A. Bardeen, Los Angeles, Calif., assignor to B & B Pipe Shops Corporation, same place. Filed Mar. 2, 1926. No. 1,774,075.

Rotary bit—John A. Cooney, Tulsa, Okla. Filed Apr. 29, 1929. No. 1,774,084.

Oil-well packing-head — Lewis F. Davis, Santa Ana, Calif. Filed Nov. 26, 1927. No. 1,774,196.

MISCELLANEOUS

Dispensing device—George S. Cox and Harry J. Armstedt, St. Louis, Mo., assignors to Argyle Production Co., same place. Filed Nov. 5, 1928. No. 1,773,723.

Treatment of shale (distilling oil shale)—John D. Zieley, New York, and Ferdinand A. Rudolf, Jamaica, N. Y., and James C. Ryder, Passaic, N. J., assignors to Petroleu, Derivatives, Inc., New York, N. Y. Filed Oct. 15, 1920. No. 1,773,839.

Apparatus for the distillation of solid materials—Charles P. Tolman, Kew Gardens, N. Y., assignor to Petroleum Conversion Corporation, New York, N. Y. Filed June 3, 1925. No. 1,773,893.

Oil-storage tank—Walter C. Athon, Lavoye, Wyo. Filed Dec. 23, 1927. No. 1,773,930.

Separation by distillation of miscible liquids—Thomas E. Perks, Auckland, New Zealand. Filed Nov. 3, 1927. No. 1,774,210.

Apparatus for dispensing liquids in measured quantities—John C. Beckfield, Pittsburgh, Pa. Filed Nov. 10, 1928. No. 1,774,349.

Method and apparatus for distilling shale—Ralph H. McKee, New York, N. Y. Filed Feb. 14, 1922. No. 1,774,391.

September 2, 1930

REFINING

Petroleum distillation—Almer McD. McAfee and Bonner H. Barnes, Port Arthur, Tex., assignors to Gulf Refining Co., Pittsburgh, Pa. Filed Sept. 17, 1926. No. 1,774,559.

Art of cracking hydrocarbons—Edward W. Isom, Scarsdale, N. Y., and Eugene C. Herthel, Chicago, Ill., assignors to Sinclair Refining Co., New York. N. Y. Filed June 11, 1929. No. 1,774,600.

Art of cracking hydrocarbons—Edward W. Isom, Scarsdale, N. Y., and Eugene C. Herthel, Chicago, Ill., assignors to Sinclair Refining Co., New York, N. Y. Filed June 11, 1929. No. 1,774,601.

Art of cracking hydrocarbons—Edward W. Isom, Scarsdale, N. Y., and Eugene C. Herthel, Chicago, Ill., assignors to Sinclair Refining Co., New York, N. Y. Filed July 12, 1929. No. 1,774,602.

Treatment of hydrocarbons—Ernest B. Phillips, East Chicago, and James G. Stafford, Whiting, Ind., assignors to Sinclair Refining Co., New York, N. Y. Filed July 22, 1927. No. 1,774,611.

Treatment of petroleum oils and products derived therefrom—Frederick G. Ring, Winchester, Mass., and Percy G. Paris, Bethlehem, Pa., assignors to Bethlehem Steel Co. Filed July 3, 1924. No. 1,775,052.

Process for treating petroleum hydrocarbons—Roy Cross, Kansas City, Mo., assignors to Gasoline Products C. Wilmington, Del. Filed Aug. 2, 1924. No. 1,775,067.

PRODUCTION

Casing-cutter—Jesse W. Plummer, Pelly, Tex. Filed Aug. 26, 1927. No. 1,774,564.

Method of cleaning wells—Irwin L. Dunn, Tulsa, Okla., assignor to Air Cleaning & Reaming Corporation, same place. Filed May 17, 1926. No. 1,774,640.

Elevator for sucker-rods and the like—Nelson K. Smith, Oxnard, Calif., assignor to Byron Jackson Co., West Berkely, Calif. Filed May 28, 1928. No. 1,774,675.

Rotary expansion underreamer—James J. Santiago, Los Angeles, Calif. Filed Jan. 12, 1927. No. 1,774,763.

Expansive reamer—James J. Santiago, Los Angeles, Calif. Filed Feb. 1, 1928. No. 1,774,764.

Anchor for wells—James S. Abercrombie. Houston, Tex. Filed July 1, 1927. No. 1,774,911.

Well-drilling rig—Lawrence H. McCollum, Healdsburg, Calif. Filed Dec. 2, 1926. No. 1,774,939.

MISCELLANEOUS

Process in the art of manufacturing asphalt by oxidizing heavy petroleum hydrocarbons—Allan C. MacLachlan, Chicago, Ill. Filed May 12, 1928. No. 1,774,756.

Liquid-dispensing apparatus—Torcuato Di Tella. Buenos Aires, Argentina. Filed Apr. 4, 1928. No. 1,774,790.

Refined viscous hydrocarbon oil—Thomas H. Rogers, Whiting, Ind., assignor to Standard Oil Co. of Indiana. Filed Aug. 19, 1926. No. 1,774,845.

Storage-tank for oils—John F. Patterson. Warren, Ohio, assignor to Warren City Tank & Boiler Co., same place. Filed Oct. 21, 1927. No. 1,774,943.

September 9, 1930

REFINING

Steam lift (for oil stills)—George W. Watts, Whiting, Ind., assignor to Standard Oil Co. of Indiana. Filed July 23, 1925. No. 1,775,478.

PRODUCTION

Nitroglycerin shell (oil-well torpedo)—Warren F. Bleecker, Boulder, Colo. Filed Mar. 23, 1926. No. 1,775,271.

Fishing-tool—William E. Niles, Kansas City, Mo. Filed Oct. 15, 1928. No. 1,775,291.

Fishing-tool—Ferdinand J. Spang, Butler, Pa., assignor to Spang & Co., same place. Filed Apr. 18, 1928. No. 1,775,328.

Grab—Joseph G. Fitzpatrick, Anaheim, Calif. Filed May 6, 1929. No. 1,775,340.

Rotary hoist—Edgar E. Greve, Bellevue, Pa., assignor to Oil Well Supply Co., Pittsburgh, Pa. Filed June 29, 1926. No. 1,775,341.

Stuffing-box—Edgar E. Greve, Bellevue, Pa., assignor to Oil Well Supply Co., Pittsburgh, Pa. Filed Jan. 18, 1927. No. 1,775,342.

Break-out tongs—Edgar E. Greve, Bellevue, Pa., assignor to Oil Well Supply Co., Pittsburgh, Pa. Filed July 26, 1928. No. 1,775,343.

Cement equalizer—Robert A. Steps and William W. Hartman, Los Angeles, Calif. Filed July 8, 1929. No. 1,775,376.

Oil-well pumping and drilling rig—Charles Eurite, Tulsa, Okla. Filed Feb. 8, 1929. No. 1,775,390.

Swab-rubber — Lorne M. McLeod, Tulsa, Okla. Filed Oct. 15, 1928. No. 1,775,403.

Well-drilling machine — Jacob H. Wilt, Medina, Ohio. Filed Aug. 8, 1928. No. 1,775,578.

Walking-beam bearing—Richard R. Bloss, Elmer B. Maurer, and Sylvester B. Creamer, Columbus, Ohio, assignors to International Derrick & Equipment Co., same place. Filed Apr. 10, 1928. No. 1,775,628.

ADVERTISING PAGES REMOVED

Buffalo Independent Built Business While Others Were Selling Out

BUFFALO

THIS story starts back in 1926. Some of the independent marketing companies in the oil industry were already selling out to the larger distributing companies and there was, even then, considerable pessimistic talk about what the future held, or failed to hold, for the independent.

In Buffalo in that year, a young fellow named Hamilton H. Wende, who had been working for The Texas Co., got a capitalist in the city, F. H. Goodyear, to back him financially and the Goodyear-Wende Oil Co. was started. Mr. Goodyear was president. Mr. Wende was vice president and general manager and P. L. Morell, who had also been with The Texas Co. along with Mr. Wende looked after sales.

The company started out distributing Texas Co. products and has maintained that policy since. It has no other connection with The Texas Co., or any other oil company, and is an independent oil company in every sense of the word.

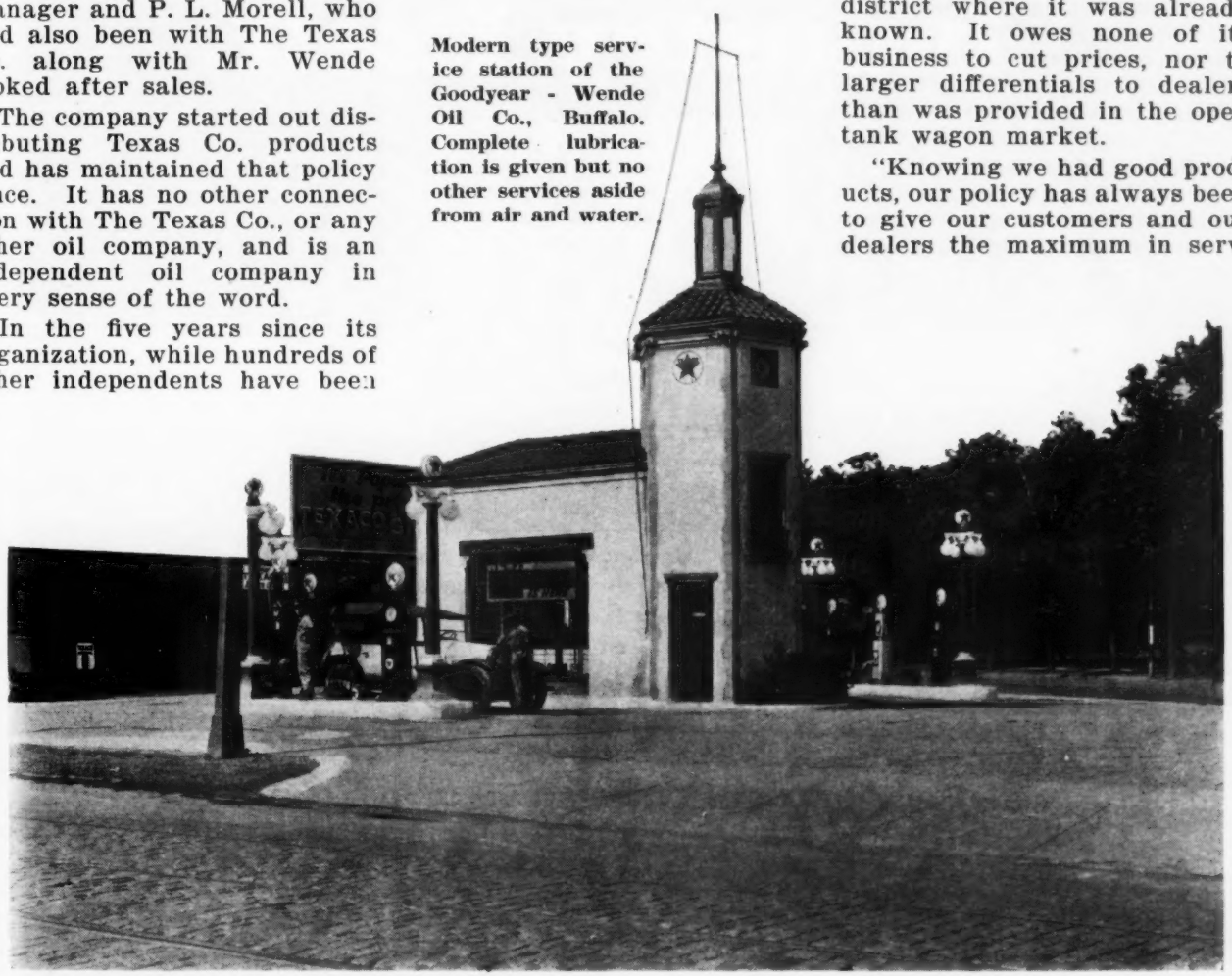
In the five years since its organization, while hundreds of other independents have been selling out, the business of the Goodyear-Wende Oil Co. has grown until it is now distributing 35,000,000 gallons of gasoline annually. This business has been built up in territory including Buffalo and 45 miles radius from the city, with a population of about 750,000, of which Buffalo has 585,000.

The company has the largest gallonage in Buffalo of any oil company and its gallonage in the territory outside is as large as that of any other company. It has built this large gallonage against competitors including the Standard Oil Co. of New York, Sun Oil Co., Tide Water, Shell, Cities Service, Sinclair, Kendall Refining, Beacon Refining, and, lately, distributors for the Richfield.

Goodyear-Wende now operates 35 trucks, has a personnel of 165 men, has 475 dealers and 21 company operated stations.

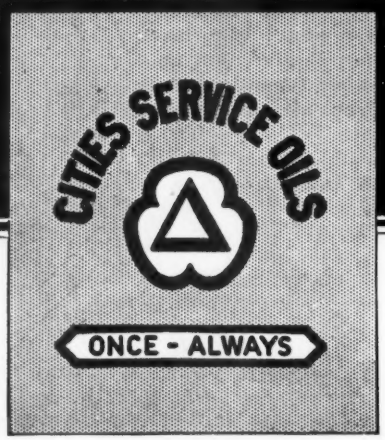
The reason for this success in the oil distributing business, Mr. Wende and his associates say is intelligent and intensive development of their original territory—four counties in the western part of New York state. The company as such distributes in Erie and Niagara counties and operates through subdistributors in Orleans and Wyoming counties. The company has resisted every effort to expand its territory and has concentrated its efforts in the district where it was already known. It owes none of its business to cut prices, nor to larger differentials to dealers than was provided in the open tank wagon market.

"Knowing we had good products, our policy has always been to give our customers and our dealers the maximum in serv-



Modern type service station of the Goodyear - Wende Oil Co., Buffalo. Complete lubrication is given but no other services aside from air and water.

Build Your Business on Our Reputation for Satisfactory Petroleum Products —a Reputation as Old as the Automobile Industry Itself.



Empire Oil & Refining Company

Subsidiary Cities Service Co.

GENERAL SALES OFFICES—TULSA, OKLA.

New St. Louis Address: 1218 Olive St., Plaza Oil Investment Bldg.

NEW YORK PHILADELPHIA CLEVELAND CHICAGO ST. PAUL
ST. LOUIS KANSAS CITY FT. WORTH TORONTO

Three-inch lines hasten the unloading of trucks. Note absence of can racks on all tank trucks

ice," said Mr. Morell. "We have avoided all side lines. We want our salesmen and station operators to push the main line—oil products. In our judgment, the station operator might be expending his time and effort to sell a tire, or some accessory, where there might not possibly be another sale of that commodity to that same customer for months or a year; and, in so doing, pass up a chance to make a good regular gasoline or motor oil customer, whose business we are particularly fitted to serve."

The company has tied its dealer trade to its products and its name by giving the best possible service it can on its pumps, tanks and so on in the dealer's hands. The company order is to service such equipment immediately the call comes from the dealer that it needs attention. All equipment in dealers' hands is painted twice a year regularly and oftener if needed.

Goodyear-Wende has gone in heavily for newspaper and billboard advertising and has of course tied its own campaigns in with the national advertising The Texas Co. was carrying on. It has been the biggest user of newspaper and billboard advertising of any oil company in Buffalo. It carried on a co-operative newspaper advertising campaign with its dealers last year, in which four and five full newspaper pages were used each week. Each advertisement listed the dealers by names and sections. In selecting billboards, the company has tried to get boards near dealers' places of business. As far as possible the company gives the dealer protection in his own territory.

The company started to build service stations in 1921, its policy being to put in a limited number of the best locations. It now has 21 operated under its company name. During the last two years it has built only six stations. The stations carried only one grade of gasoline, until Texaco Ethyl came along, and one line of motor oils.

Each station has pits or racks for doing a complete lubrication job and the company is now changing to enclosed racks at all its stations. It does no car washing, carries no tires, nor offers battery service at any station. It insists, if its operators give the service the company expects of them, they will have no time for other services than dispensing oil products, and servicing tires for air and radiators for water.

At its central stations, the Goodyear-Wende Oil Co. operates eight men, four to a shift; at smaller stations four men, two to a shift. It handles its station men on what it calls the 24-hour plan. A man starts work at noon, or whatever time is most advantageous at that particular station. He works through until closing time and starts the next morning and works until noon, or whatever other hour completes his 24 hours on duty. Then he is off the next 24 hours.

Extra workers, college men and so on, are put on Saturdays and Sundays, and the company has also what it calls in-between men, regular employes who work through the busy period at the station each day, having off one day in seven.

The company pays a rate at its stations that brings a high class of men to work there and in addition it pays a bonus on all greasing jobs and on all oil sales. A quota is set for each station and the men get a good percentage of the revenue from all greasing and oil sales over this quota.

Each station has a manager and an assistant. The company provides uniforms, overcoats and raincoats, the uniforms being laundered twice a week.

The station manager is held responsible for pump meter readings checking with his receipts. He must also check tank truck deliveries to the station storage. The stations carry 4000 gallons storage in 1000-gallon tanks, except that the company is now putting in 2000-gallon tanks at the busiest island of the station to do away with the station running out of gasoline at that island and having to shunt patrons to some other pump.

The company handles its large volume of business with 35 trucks, four of which are stake truck, and one a tank truck on motor oil deliveries only. This is a 2½-ton, 1000-

Interior of warehouse of Goodyear-Wende Oil Co., Buffalo. Lube storage tanks are carried on the second floor

gallon, four-compartment truck.

Mr. Morell places the efficiency of the trucks, in handling this large gasoline gallonage, in proper routing and in the use of pneumatic, balloon tires, which he says have given the various units from five to 10 miles an hour extra speed over what they could make with solid tires. The larger trucks are kept on big dumps and some make as many as five deliveries a day.

None of the gasoline trucks carry sideracks with lubricating oils in cans. Mr. Morell believes that the cans detract materially from the appearance of the truck and also having to handle the cans cuts down on the speed with which the truck operator can dispense his gasoline. Speed in delivering gasoline is also gained by using, in the new trucks, three-inch lines to the two-inch outlets on the trucks. The two-inch outlets are necessary because of the size of openings at station tanks. However, it has been learned that using a three-inch line from the compartment to the truck outlet gives more head and the gasoline is unloaded faster.

At the loading rack at the company's one bulk plant, on Lansing Street, where four trucks can be loaded at one time, three-inch loading lines are used; and four-inch lines from tank car to storage, which consists of fourteen 20,000-gallon tanks.

The company has done away with chains dragging from the end of the truck as a ground for static electricity which might be developed. When the trucks are loaded it has provided for a positive ground, from a wire to an iron stake driven through the concrete. The driver hooks the other end of the wire over the rim of the compartment he is filling.

The Goodyear-Wende Oil Co. is building a company garage next to its present bulk plant. This will be about 120 by 100 feet floor space and will house 50 trucks. A wash line is to be extended around the inside wall of the garage, so that a truck can be showered every night if necessary, and each truck is to be washed thoroughly once each week. The company keeps two truck repair men on its staff and inspection, greasing, washing and oil changing for each unit of its fleet is done on definite schedule. This work will be done at night by a special crew so that the trucks' operating hours will not be affected.

Correction

The Sinclair service station on page 87 of the Sept. 24 issue is in Chicago, instead of in Milwaukee as credited in the cut lines.

Reorganizes Refining and Marketing Branches

TULSA, Oct. 2.—Reorganization of the various refining and marketing divisions of the Mid-Kansas Oil & Gas Co. and the former Transcontinental Oil Co. following the latter's acquisition by the Ohio Oil Co. subsidiary, has been announced by company officials here. The name will be the Marathon Oil Co.

The refining and marketing divisions of the company will be handled by the Marathon company, while the producing end will retain its name of the Mid-Kansas Oil & Gas Co. The new company is a Delaware corporation but headquarters will be in Tulsa.

The former Transcontinental Oil Co. used the trade-name "Marathon" for its products. Following its absorption by Mid-Kansas it operated in the northwestern division, with headquarters at Sioux City, under the name of the Marathon Oil Co., while its marketing activities in Missouri and Kansas were handled by the Trans-Missouri Oil Co. In Arkansas the company operated as the Transcontinental Oil Co. of Arkansas, and its Atlanta division operated under the name of the Marathon Oil Co. The Oklahoma and Texas division was operated under the name of the Mid-Kansas Oil & Gas Co., marketing department.

Temporary officials of the recently organized company were announced as follows: W. W. Fleming, president; A. M. Gee, vice president; H. J. Scott, vice president; J. L. Cook, secretary and treasurer, and George Faunce, assistant secretary and treasurer. The directors, in addition to the above named, will include H. B. Carpenter. The refineries, which were acquired from the Transcontinental, will be in charge of A. J. Slagter.

The decision to retain the trade-name "Marathon" was made several weeks ago by the new officials of the Mid-Kansas company. The Marathon runner trade-mark, has become familiar throughout the country.

ADVERTISING PAGES REMOVED

Changes in Oiling, Greasing and Fueling Systems Of New Auto Models

By John Younger

HERE is a means by which even minor changes in lubrication and fuel systems of new models of automobiles may be quickly made known to the men in your lubrication stations.

John Younger, head of the industrial engineering department of Ohio State University, and editor of Automotive Abstracts, will tell NATIONAL PETROLEUM NEWS *readers what the changes are in both engine and chassis lubrication, and in fuel systems, in new models, as they are brought out.*

His articles appear irregularly closely following the announcement of new models by the automobile companies.

The New Packards

BY FAR the most outstanding improvement is the adoption of a new style Bijur chassis lubricating system which is entirely automatic. The system heretofore employed required manual operation at intervals and was quite satisfactory except that for perfectly successful operation it called for judgment on the part of the driver. The new system has the desirable merit that it can be forgotten until such time as the oil reservoir requires replenishment. An oil level gauge in the lubricator tank, exposed whenever the left side of the hood is raised, signals when more oil is needed.

The system is unique in that it is operated by changes in manifold vacuum. The actuating unit is a small diaphragm pump which is exposed to the vacuum in the manifold on one side, and to atmospheric pressure on the other. Changes in vacuum, produced by changes in throttle opening and engine speed, respectively, cause this diaphragm to be deflected, its motion in turn operating a master pump, which supplies the chassis lubricating lines, very much as in the manual system.

By comparison with the hand-operated system, the automatic Bijur system feeds oil very slowly. One stroke of the new pump, for example, feeds about 1½ drops into the lines, or 1/150th as much as the hand pump delivers. The oil is metered to drip plugs at all feeding points, as heretofore, but now is delivered with regularity, rather than intermittently, and often at considerable intervals. Thirty-six different points are now supplied.

The exclusive piston-lubricator valve is continued with some improvement. This provides for a supply of oil from the lubricating system of the engine to be fed directly to the cylinder side walls whenever the choke is in operation. This rather simple provision takes care of the serious condition imposed during the starting and warming up period on most engines, and not only facilitates a quick build-up of power, but also prolongs the life of the engine very materially.

Ordinarily the operation of starting a cold engine finds the lubricant far below normal working temperatures—and in winter sometimes partly congealed—the bores drained of surplus oil, and, of course, cold. A very wet fuel mixture, entering the cylinders under these conditions, is immediately condensed on the walls to a very considerable degree, so that until the engine is warm the pistons are forced to work, not only against poorly lubricated surfaces, but practically speaking against surfaces which are wetted with an oil solvent, namely raw gasoline. Scoring of the walls not infrequently results from this combination, while excessive wear is almost always present. Rapid dilution of the oil in the crank case is a no less serious phase of the starting complex, which largely results from blow-by as a result of the poorly lubricated condition of the pistons and walls.

All these difficulties are avoided if an artificial supply of oil to the cylinder walls is established during the starting period. This is done by Packard by running an oil lead direct to each of the cylinder walls, while its use is regulated, and abuse prevented, by hooking-up the control valve to the choke.

* * *

Whippet Four

THE low priced car presented by Willys-Overland, the Whippet Four, is making a step forward in its class through a series of important mechanical improvements for longer life and artistic advancements.

A marked improvement is noted in the new Whippet braking equipment. The brakes are the two shoe, Bendix Duo-servo type, internal expanding and fully enclosed. They operate by cable and conduit control instead of the usual ballcrank and lever. This advanced construction eliminates brake rattle in addition to providing a superior brake which enables the driver to have his car under complete control at every driving range.

In the improved Whippet a greater degree of smoothness is obtained by the special mounting of the engine. At all points of its contact with the chassis, rubber insulation is employed which results in smoothness, absence of minor vibrations and renders the car exceptionally pleasant to drive.

The successful use of the full force feed lubricating system in the Whippet for more than four years also is retained. By means of this type of oiling, the driver is assured of adequate lubrication of all engine parts.

WACKMAN STEEL DRUMS
With Wackman Equipped
Prest Weld Drum Flanges

Bought and Sold on their Merits

Tamper proof, Leak proof, Dependable, Wackman PREST WELD drum flange construction answers any challenge.

Wackman welded drum flanges cannot work loose or fall out.

Repeat orders depend largely on package satisfaction.

All of the potential satisfaction you can put into your product is preserved for your customers when packed in WACKMAN steel drums.

Pressed in WELDED flanges that stay there, integrally a part of the drum's construction, double sealing lug ears, component parts of the flanges themselves.

Design and process insertion fully covered by pending patents.

Welded after pressed in, tested and inspected before the drum's assembly, PREST WELD drum flanges are the final answer to any question involving the durability and satisfaction of steel drum spud construction.

Fearless, sturdy, simple, they assure complete freedom from leakage or warpage.

No scale, no contamination, no dependency—just a life time of service built right into the drum's construction.

Nothing short of complete ruination to the drum itself will cause WACKMAN steel drum flanges to leak.

USE WACKMAN STEEL DRUMS. A REPUTABLE RECORD OF SUCCESSFUL MANUFACTURE ASSURES YOU THEIR QUALITY.

This ad is Number Three of a Series

FOUR STEEL PACKAGE PLANTS

St. Louis, Mo. **No. Kansas City, Mo.** **Houston, Tex.** **Sand Springs, Okla.**

WACKMAN WELDED WARE COMPANY

ON THE LAZY BENCH

Two Out of One

Rufus was proudly sporting a new shirt when a friend asked: "How many yards do it take to make a shirt like dat one, Rufus?"

"Well, suh," replied Rufus, "Ah got two shirts like this out'n one yard last night."

—The Safe Worker

* * *

Heser: "I'm looking for a good stenographer."

Schad: "Reformed, have you?"

—The Diamond

* * *

Magistrate: "So, your only defense is that you were drunk when you kissed this lady. How can you prove that?"

Defendant: "Well, just take a good look at her yourself, Judge."

—Heil Quality News

* * *

Looking for grandmother's glasses isn't the job it used to be. Nowadays, she leaves them right where she empties them.

—The Unloading Rack

* * *

Why Not?

Every man has his day. The pedestrian has the right of way in an ambulance.

—The Loreco Diamond

* * *

Wife: "What's a female sheep?

Husband: "Ewe."

And another big war was on.

—Stanolind Record

* * *

Unfamiliar

Late at night a gentleman rolled out of the door of an exclusive night club and blinked up at the stars. "Gracious!" he exclaimed to the fancily dressed doorman, "What is that strange odor around here?"

"That, sir," said the doorman, "is fresh air."

—The Diamond

* * *

Witty Boarder: "Ah, your steak is like the weather this evening, madam. Rather raw."

Witty Landlady: "Indeed? By the way, your account is like the weather, too. Unsettled."

—The Unloading Rack

A Late Book

Makin' Hooppee—by American Wood Barrel Co.

—The Unloading Rack

* * *

First Salesman: "I made some wonderful contacts today.

Second Salesman: "I didn't make any sales either."

—The Loreco Diamond

* * *

"When did they first get the idea of using buses for transportation?"

"When Brigham Young went on his honeymoon."

—Exchange

* * *

Golf Mindedness

"There must be a lot of golfers in this building," a man said the other day.

"Why do you think so?" he was asked.

"When I called 'Four' in the elevator the other morning, everybody ducked."

—The Diamond

* * *

Auntie:—"Won't it be nice when Baby Brother talks?"

Joyce, jealously: — "What does he want to talk for? He gets everything he wants by just yelling."

—Stanolind Record

* * *

And Still They're Flies

Old Lady, sitting next to oil man at base-ball game: "What are those men out there for?"

Oil Man: "They're fielders. They catch flies."

Old Lady: "Mister, please don't be sarcastic. I asked you a civil question."

—The Unloading Rack

* * *

Flattened

Tourist (from New York)—"But what makes these western prairies so flat?"

Native—"Well, stranger, we think it must be because the sun sets on 'em every evening."

—The Loreco Diamond

* * *

Boss: "Do you think lobbying should be permitted?"

Steno.: "Well, I think it's all right if you're really staying at the hotel."

—The Unloading Rack

"Brookins made me a one-trip man"

"One trip from oil drum to car—that's the way *I* serve oil.

"But I couldn't do it that way without Brookins 'All-in-One' Measures. They are made in *all sizes*, and I've got a *complete* set. So no matter *how much* oil is needed I have a measure that fills the bill. The owners of big cars appreciate that kind of service. So I get their business.

"And do those Brookins Measures last! I've had my set more than two years now, and it looks like they'll be good for two or three more. That's what makes 'em the *cheapest* measures, in the long run. Believe me, I'm strong for Brookins."

Bill

You'll find it pays to follow Bill's methods and outfit your station with a *set* of Brookins "All-in-One" Measures . . . the measures that are built to help you give speedy service and to stand up under the toughest kind of manhandling.

Get in touch with your jobber salesman. He'll be glad to fix you up. And in the meantime, write for descriptive literature.

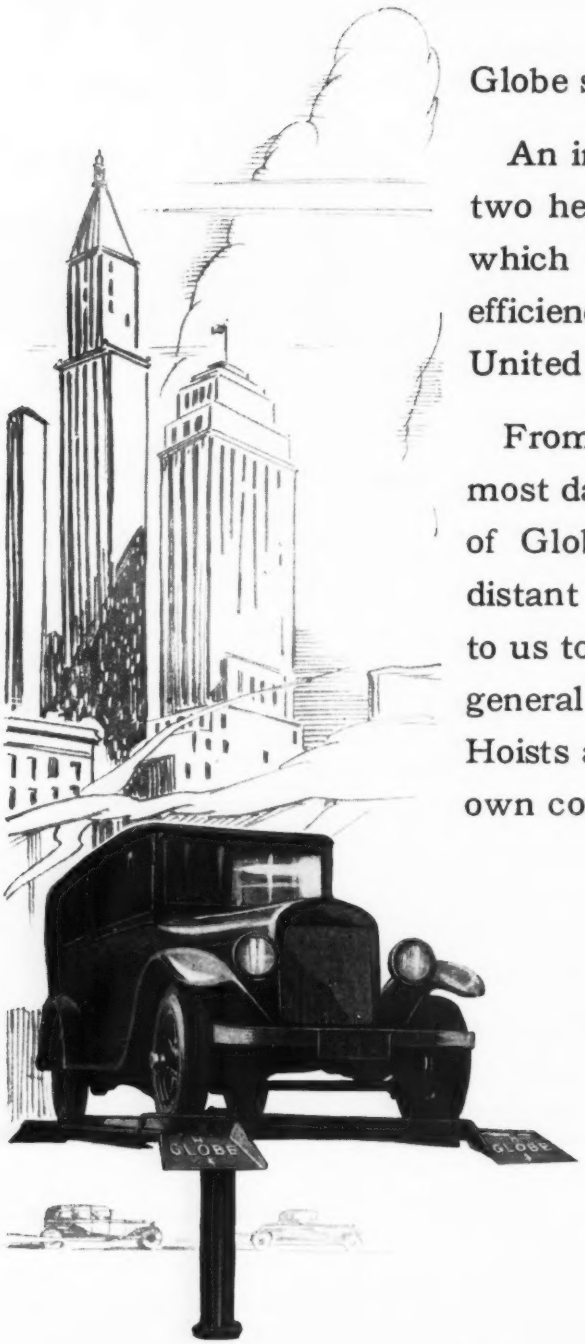
BROOKINS MFG. CO.
720 Hawthorne St., Dayton, Ohio

If you want an inexpensive measure that holds enough oil to fill the biggest crank cases, get the Brookins Crankcase Filler. It has the famous Brookins Metal Spout and is made in 6, 8 and 10 quart sizes.

"SATISFYING AIDS *to* SATISFYING SERVICE"

O-39

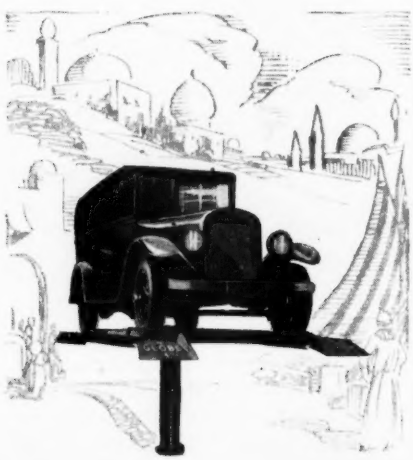
GLOBE service



Globe service is world-wide.

An institution which is "geared up" to serve two hemispheres is undoubtedly an institution which moves with ease and swiftness and efficiency in serving "home territory"—the United States.

From Foreign lands comes new evidence almost daily regarding the *utility* and *appreciation* of Globe Auto Hoists. These reports from distant lands—from the "other 'sphere"—seem to us to be persistent echoes of the thunder of general acceptance with which Globe Auto Hoists are received from coast to coast in our own country.



GLOBE Auto HOIST

REG. U.S. PAT. OFF.

Know Customer Is Able to Pay Before You Sell Him Goods on Credit

By W. D. Hudson*

IT HAS not been my privilege to be the manager of a major concern where there was a battle between the credit and sales departments. The credit department looks upon the cash as the all-important thing while the sales forces think nothing counts but orders.

In my small concern there have been two forces at work: first, the desire for volume, which every oil man wants, and sometimes he wants it to the extent of overlooking the prospective customer's ability to pay; second to get the money, regardless of orders, which was the sounder and better of the two forces.

Many of our good customers are not financially able to pay cash upon delivery because they too have to extend credit to their customers in the retail business. Therefore, it is necessary for us to take the "credit risks." Any company that does not risk some on credit will turn down much good business—since perfect credit statements are few. The man who gambles on credit is the most legitimate gambler in any business, but if he is wise he will gamble on facts.

Gasoline or oil is money; it is more than that, it is profit. If you extend a thousand dollars in credit and it is never paid, it is exactly as though you had given a thousand dollars of that particular year's profit away. You may carry it as a frozen asset from year to year until it is outlawed by the statute of limitations. The longer you carry it the more it diminishes and shrinks in value because of the loss in interest.

You may not look upon it as a thousand dollars in gold eagles. You may figure its net cost, if gasoline, at 6 or 7 cents a gallon with freight and taxes added. You may calculate that you have sold that customer enough in the past to have made profits to more than offset that loss, but the fact will remain that losses from bad accounts are substracted dollar for dollar from the profit account.

The banker who loans actual money is very careful to protect himself against losses; he values his loan at full worth, and is ready to collect in full when due. The oil man should consider his business in the same light, should take the same precaution, and should be careful to collect it promptly. He is not loaning merchandise that has cost him something less than the sales price; he is loaning actual future profits and if he does not collect what is actually due him, he is taking cash out of his treasury.

I believe that the oil jobber should adopt a tight credit policy, because he sells a product on a narrow margin of gross profit. A single sale that is not paid may wipe out several months' profit on the customer. He is selling goods that cannot be replevined or attached like automobiles or other merchandise which can be identified.

If you have made a misjudgment in your credit risks and your customer has not enough liquid assets to cover your account, you may lose both profits and customer. His store, home, or garage may be worth enough to cover the debts, but in making allowances for credit you do not want to take collateral which will force you to liquidate and put your customer out of business in order to collect your debt.

The methods of securing information about the paying habits and ability of a new customer are indeed very necessary. You can't always depend upon mercantile agencies, such as Dun and Bradstreet, local agencies of the same type, or the customer's bank. Most banks want to see you extend their customers all the credit possible so that they will not be called upon by them for the same purpose.

There are many exceptions to this in other lines of business, but very few in the garage and filling station business. If you get his other suppliers to see that if is of mutual interest and benefit to disclose to each other the knowledge of his financial responsibilities, you can ascertain in that manner his credit standing. It is most important that every oil man should have the ability to analyze and understand the financial ability of

Handling Credits

THERE is a sound theory in the economics of credits that credit should not be extended beyond the time the goods are consumed. Unfortunately this theory cannot always be practiced in a jobber's relations with his dealer outlets who may be tied up with credits given customers, particularly the customers who depend on crops for money with which to pay their bills.

Practices that a jobber should follow in granting credit, are discussed by Mr. Hudson in this paper prepared for presentation before the Tennessee Oil Men's Association but which a discussion of the code forced off the program.

*President, Tennessee Oil Men's Association and Clarksville Oil Co., Clarksville, Tenn.

ECONOMY
APPEARANCE
DURABILITY
STRENGTH
are built into

MARION
STEEL
BUILDINGS

Write for Bulletin 282

Marion Machine, Foundry & Supply Co.
MARION, IND.

What About Semi Trailers?

If you have been wondering about the real success of semi-trailers for delivering gasoline and oil—watch for the Fourth Annual Engineering Volume of National Petroleum News out November 12.

An oil company with over 2 years experience with a good size fleet of tractor type trucks and trailers will tell in that issue how their equipment performed in the heavy snows of last winter and how it looks to them today after two years test.

Watch for the Fourth Annual Engineering Volume

National Petroleum News
November 12, 1930

a prospective customer. The best way is to ask him frankly to furnish you with a statement of his balance sheet for the preceding year and find whether he made a profit or loss. If he is honest in his intentions to pay he will gladly comply with your request.

The value of an account depends upon a customer's ability to pay when the account is due. Some take as a basis for a risk the customer's condition at the beginning of the year. Some take his financial responsibility at the date the sale is made, but conditions change constantly, and the buyer who is in sound financial position and is both able and willing to pay at the first of the year, or at the time of the sale, may be in very different circumstances six months later when the account is due and payable.

Suppose your customer had been playing the stock market six months ago and invested his earnings in wildcat stock, or had gambled with the weather in raising a big corn crop, or had been supplying farmers on credit, who had done these things themselves; regardless of the rugged honesty of your customer he would now find himself financially embarrassed and unable to meet his obligations. Always take as a basis his ability to pay when the account comes due and payable.

If you have a truck driver, or any other employe, who has not nerve enough to ask a customer for payment, the quickest way you can dispose of him the better off you'll be. It is ridiculous to encourage slow pay.

Suppose you are buying gasoline from a refinery and on the first of the month you received a letter stating this, "Your payment due today. Was not received. Never mind; just pay any old time it is convenient." You would think that refinery was headed for the rocks. We may not be expressing this in words to our customers, but we are implying the same statements by our laxity.

Our customers cannot be expected to show any more respect for our accounts than we show for them ourselves. It does not take much laxity, and only a few extensions for a customer to presume that we are mad at them and get them prejudiced against us when we ask them to pay a bill.

Many of us work on the theory that our customer might resent active measures and that the goodwill of the concern would thereby suffer. If there is a dispute regarding the account of a customer, or if he has been unfortunate and can't meet his obligations at the moment, every consideration should be shown and a satisfactory settlement agreed upon. But when the customer simply refuses to pay his honest debts and fails to give satisfactory or reasonable explanation for the delay, then its time to put the screws to him in no certain manner.

The "Goodwill" theory of allowing a customer to avoid payments is fallacious and disastrous, for what is the goodwill of a man who refuses to pay his honest debts? He owes you money and knows it; he will never recommend you to his friend because you have befriended him, but he will tell his friend that you are "easy." So far as goodwill is concerned, the customer will think more of you if you go about collecting accounts he owes you in a straight forward and business like manner.

Remember that when you go into the credit business you are going into the banking business with your customer, that you are loaning them money in the form of merchandise, and that you are entitled to just as good security as your banker would require, and that your record system should be as accurate and business like as that of any other bank.

I will not advise you to demand cash for all sales upon delivery. If your record for collections was perfect and you had not lost a single dollar during the year on bad accounts, I would be convinced that you had turned down, driven away thousand of dollars worth of good business. In this day of competition in credit risks we must gamble upon the customer's ability to pay. But we must gamble upon cold facts, and exercise all the ability and energy at our command in ascertaining credit limitations and to whom it should be extended.

ADVERTISING PAGES REMOVED

Crude Production by Fields

By Telegraph—Daily average gross output, by fields in U. S., for week ending with dates below as compiled by A. P. I.

PRODUCTION SUMMARY

	Oct. 4	Sept. 27
Production east of Rockies	1,800,750	1,795,450
Increase		5,300
Total production in U. S.	2,386,950	2,389,750
Decrease		2,800
Crude oil imports	73,430	200,715
Decrease		127,285
Total new crude supply	2,460,380	2,590,465
Decrease		130,085

OKLAHOMA

	Oct. 4	Sept. 27
Allen Dome	14,000	14,250
Asher	1,150	1,150
Asher, West	7,050	6,950
Blackwell	3,000	3,000
Bowlegs	14,900	14,900
Braman	3,200	3,200
Bristow-Slick	15,100	15,100
Burbank	15,400	15,450
Carr City	7,400	9,700
Cromwell	7,350	7,400
Cushing	13,500	13,500
Davenport	1,150	1,150
Duncan Dist.	8,850	8,950
Earlsboro	17,400	20,450
Earlsboro, East	17,700	17,250
Earlsboro, So.	9,150	8,850
Fox	1,200	1,150
Garber	4,550	4,550
Graham	3,300	3,250
Healdton	12,000	11,950
Hewitt	6,950	7,000
Hubbard	1,400	1,400
Konawa	18,150	16,400
Little River	23,600	24,800
Little River, East	12,500	12,500
Logan County	4,400	4,600
Maud	3,000	3,700
Mission	550	7,150
Oklahoma City	110,500	104,400
Okmulgee, No.	10,450	10,250
Okmulgee, So.	6,900	6,900
Osage (Outside Burbank)	24,950	25,000
Papoose	2,650	2,600
Pearson	700	700
Sasakwa	5,700	5,300
St. Louis	24,850	24,750
Scholem-Alechem	13,650	13,500
Searight	7,300	7,350
Seminole	14,300	14,750
Seminole, East	2,200	2,100
Thomas	650	650
Tonkawa	6,250	6,250
Wewoka	3,800	3,750
Yale-Jennings	7,150	7,200
Others	63,550	64,100
Total, Okla.	558,450	559,000
Decrease		550

KANSAS

Augusta-Fox Bush	2,850	2,850
Churchill	3,550	3,600
El Dorado-Towanda	13,850	13,900
Florence-Covert	800	800
Greenwood Co.	18,400	18,450
Oxford	2,600	2,500
Peabody-Elbing	2,550	2,550
Rainbow Bend	1,100	1,100
Russell	3,000	3,000
Seagwick Co.	23,000	22,100
Voshell	9,250	10,250
Others	35,000	35,500
Total, Kansas	115,950	116,650
Decrease		700

NORTH LOUISIANA

Caddo, light	8,950	8,800
Caddo, heavy	2,750	2,700
Cotton Valley	1,850	1,850
De Soto and Red River	3,000	2,950
Haynesville	4,900	4,900
Holly	1,000	1,100
Homer	3,450	3,450
Sarepta Carterville	2,550	2,650
Urania	5,250	5,250
Zwolle	4,500	4,700
Others	1,700	1,700
Total, No. La.	39,900	40,050
Decrease		150

ARKANSAS

Champagnolle	3,750	3,750
El Dorado	4,050	4,050
Lisbon	900	900
Nevada	1,000	1,000
Smackover, light	5,000	5,050
Smackover, heavy	36,400	36,800
Stephens	900	900
Others	1,150	1,150
Total, Ark.	53,150	53,600
Decrease		450

ROCKY MOUNTAIN

Wyoming

Big Muddy	1,950	1,950
Elk Basin	800	400
Grass Creek	2,050	2,100
Labarge	2,100	1,900
Lance Creek	150	100
Lost Soldier	5,750	5,600
Oregon Basin	2,500	2,500
Rock River	2,150	2,100
Salt Creek	29,100	30,300
Others	5,450	6,500
Total, Wyo.	52,000	53,450
Decrease		1,450

Montana

Cat Creek	1,100	1,100
Pondera	1,650	1,400
Sunburst	6,100	6,100
Others	100	100
Total, Montana	8,950	8,700
Increase		250

Colorado

Florence	600	400
Fort Collins	1,150	1,100
Moffat (Craig)	1,000	1,250
Others	1,550	1,500
Total, Colorado	4,300	4,250
Increase		50

New Mexico

Artesia	700	700
Balance Eddy County	200	200
Balance Lea County	7,000	7,000
Hobbs High	38,150	35,850
Hogback	400	400
Rattlesnake	1,250	1,250
Table Mesa	100	100
Total, New Mexico	47,800	45,500
Increase		2,300
Total, Rocky Mountain	113,050	111,900
Increase		1,150

TEXAS (OUTSIDE GULF COAST)

Panhandle District

Carson County	6,950	6,800
Gray County	54,750	53,600
Hutchinson County	16,100	17,300
Wheeler County	700	500
Others	300	400
Total, Panhandle Texas	78,800	78,600
Increase		200

North Texas

Archer County	13,800	12,950
Burkburnett	7,800	7,850
Electra	10,750	10,700
Iowa Park and K. M. A.	4,650	4,450
Montague-Cooke	9,250	9,300
Wilbarger	16,200	15,800
Others	2,000	2,100
Total, North Texas	64,450	63,150
Increase		1,300

West Central Texas

Brown County	5,400	5,500
Callahan County	3,000	3,050
Coleman County	2,700	2,750
Eastland-Desdemona	5,250	5,300
Jack County	2,100	1,600
Palo Pinto County	400	450
Shackleford County	6,800	6,800
Stephens County	5,250	5,300
Throckmorton County	700	700
Young County	15,500	13,900
Others	1,350	1,300
Total, West Central Texas	48,450	46,650
Increase		1,800

West Texas

Crane and Upton Counties	34,750	33,500
Crockett County	2,100	2,150
Ector County	7,200	9,600
Howard County	23,300	23,800
Jones County	1,300	1,350
Mitchell and Scurry Counties	2,400	2,200
Reagan County	22,200	23,100
Winkler County	61,200	62,000
Yates	104,450	102,250
Balance Pecos County	3,200	3,300
Others	7,700	6,000
Total, West Texas	269,800	269,250
Increase		550

East Central Texas

Boggy Creek	2,600	2,600
Corsicana-Powell	5,500	5,400
Currie	400	350
Mexia	4,200	4,150
Nigger Creek	200	200
Richland	150	150
Van Zandt	29,000	28,500
Wortham	600	650
Total, East Central Texas	42,650	42,000
Increase		650

Southwest Texas

Chapman Abbot	10,500	10,950
Dale	250	300
Darst Creek	44,700	42,500
Laredo District	12,550	13,500
Luling	10,000	10,000
Lytton Springs	850	850
Salt Flat	17,000	16,500
Somerset	1,550	1,500
Others	600	550
Total, Southwest Texas	98,000	96,650
Increase		1,350
Total, Texas (Outside Gulf Coast)	602,150	596,300
Increase		5,850

GULF COAST

Coastal Texas

Barbers Hill	17,900	17,600
Batson	1,150	1,150
Big Creek	3,450	3,400
Blue Ridge	1,850	2,000
Boling	1,000	950
Damon Mound	700	650
Esperson	3,250	3,300
Fannett	700	700
Goose Creek	4,700	4,500
Hankamar	1,400	1,550
Hull	7,700	8,100
Humble	14,400	16,500
North Dayton	1,250	1,450
Orchard	2,000	2,000
Orange County	2,200	2,300
Pettus	8,400	7,600
Pierce Junction	10,500	10,500
Port Neches	1,500	1,500
Raccoon Bend	12,000	12,100
Refugio County	27,100	28,300
Saratoga	1,100	1,100
Somerville	2,550	2,700
Sour Lake	2,200	2,200
South Liberty	3,300	3,350
Spindletop	15,800	15,050
Sugarland	11,700	11,450
West Columbia	4,000	4,100
Others	2,550	2,350
Total, Coastal Texas	166,350	168,450
Decrease		2,100

Coastal Louisiana

East Hackberry	2,900	2,650
Old Hackberry	950	1,000
Edgerly	400	400
Evangeline	2,100	2,050
Lake Barre	1,000	1,050
Lockport	2,750	2,600
Port Barre	3,600	3,600
Sulphur Dome	2,500	2,800
Vinton	9,950	9,000
White Castle	1,100	1,100
Others	2,650	2,750
Total, Coastal Louisiana	29,900	29,000
Increase		900
Total, Gulf Coast	196,250	197,450
Decrease		1,200

CALIFORNIA

Dominguez	10,000	10,100
Elwood-Goleta	32,000	33,600
Huntington Beach	27,600	28,000
Inglewood	15,200	16,200
Kettleman Hills	24,200	24,000
Long Beach	100,500	99,600
Midway-Sunset	61,500	62,500
Playa del Rey	20,000	20,200
Santa Fe Springs	94,700	96,700
Seal Beach	19,000	19,000
Ventura Avenue	46,500	47,400
Others	135,000	137,000
Total, California	586,200	594,300
Decrease		8,100

EASTERN

(Not including Michigan)	114,000	112,500
Increase		1,500

MICHIGAN

Mt. Pleasant	5,200	5,400
Muskegon	2,400	2,350
Saginaw	250	250
Total, Michigan	7,850	8,000
Decrease		150

Compilation Of Mid-Continent Refinery Operations

All Rights Reserved to The National Petroleum Publishing Co.

Mid-Continent Refinery Operations, Week Ended Oct. 3 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Oct. 3
Plants Reporting.....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	94,000	161,700	106,100	82,000	77,000	521,300
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs..	57,377 + 4.2	95,669 — 8.5	61,329 + 6.2	34,664 — 21.4	39,998 — 6.3	289,037 — 5.0
Da. Av. Other Oils....	10,517 + 47.7	7,022 + 85.5	3,737 — 41.5	3,128 — 26.3	18,751 + 2.0	43,155 + 8.1
GASOLINE—Gallons						
Stocks, Sept. 26.....	9,881,000	38,728,000	24,162,000	9,143,000	9,587,000	91,501,000
Prod. 9-26 to 10-3....	10,445,000 — 2.5	17,670,000 — 6.1	8,935,000 — 4.1	3,550,000 — 16.2	6,001,000 — 1.6	46,601,000 — 5.3
Ship. 9-26 to 10-3.....	8,788,000 — 15.5	18,109,000 — 6.4	9,451,000 — 1.4	3,173,000 — 51.8	7,485,000 + 20.0	47,006,000 — 9.9
Stocks, Oct. 3.....	11,538,000 + 16.8	38,289,000 — 1.1	23,646,000 — 2.1	9,520,000 + 4.1	8,103,000 — 15.5	91,096,000 — 0.4
Ratio Sales to Prod...	84.1%	102.5%	105.8%	89.4%	124.7%	100.8%
KEROSINE—Gallons						
Stocks, Sept. 26.....	7,732,000	11,777,000	2,462,000	117,000	686,000	22,774,000
Prod. 9-26 to 10-3....	1,871,000 + 9.2	2,095,000 — 9.9	1,246,000 + 9.9	.....	583,000 — 4.3	5,795,000 — 0.7
Ship. 9-26 to 10-3....	1,375,000 — 30.8	1,822,000 — 10.9	1,252,000 — 13.6	59,000 +321.4	686,000 + 8.7	5,194,000 — 15.2
Stocks, Oct. 3.....	8,228,000 + 6.4	12,050,000 + 2.3	2,456,000 — 0.2	58,000 — 50.4	583,000 — 15.0	23,375,000 + 2.6
Ratio Sales to Prod...	73.5%	87.0%	100.4%	.....	117.7%	89.6%
STOVE DISTILLATE—Gallons						
Stocks, Sept. 26.....	5,100,000	4,220,000	588,000	145,000	737,000	10,790,000
Prod. 9-26 to 10-3....	321,000 + 47.9	710,000 — 16.0	220,000 — 6.0	57,000 — 14.9	4,000 — 89.2	1,312,000 — 6.3
Ship. 9-26 to 10-3....	325,000 + 23.6	636,000 — 31.0	217,000 — 22.2	51,000 — 63.6	27,000 — 32.5	1,256,000 — 23.6
Stocks, Oct. 3.....	5,096,000 — 0.1	4,294,000 + 1.8	591,000 + 0.5	151,000 + 4.1	714,000 — 3.1	10,846,000 + 0.5
Ratio Sales to Prod...	101.2%	89.0%	98.6%	89.5%	675.0%	95.7%
GAS OIL—Gallons						
Stocks, Sept. 26.....	4,554,000	44,494,000	3,208,000	5,523,000	6,576,000	64,355,000
Prod. 9-26 to 10-3....	637,000 — 28.8	1,812,000 + 34.0	756,000 — 28.3	255,000 — 74.0	2,165,000 — 9.0	5,625,000 — 15.6
Ship. 9-26 to 10-3....	786,000 — 30.9	2,277,000 + 7.3	1,341,000 +158.4	714,000 + 22.3	2,138,000 — 1.3	7,256,000 + 11.1
Stocks, Oct. 3.....	4,405,000 — 3.3	44,029,000 — 1.0	2,623,000 — 18.2	5,064,000 — 8.3	6,603,000 + 0.4	62,724,000 — 2.5
Ratio Sales to Prod...	123.4%	125.7%	177.4%	280.0%	98.8%	129.0%
FUEL OIL—Gallons						
Stocks, Sept. 26.....	30,373,000	53,120,000	69,590,000	22,175,000	16,995,000	192,253,000
Prod. 9-26 to 10-3....	4,102,000 + 0.5	5,106,000 — 13.1	7,547,000 + 16.7	4,445,000 — 20.6	4,353,000 — 5.6	25,553,000 — 4.1
Ship. 9-26 to 10-3....	5,529,000 + 9.5	5,733,000 +200.3	6,817,000 — 9.5	3,720,000 — 26.1	4,281,000 — 1.8	26,080,000 + 9.2
Stocks, Oct. 3.....	28,946,000 — 4.7	52,493,000 — 1.2	70,320,000 + 1.0	22,900,000 + 3.3	17,067,000 + 0.4	191,726,000 — 0.3
Ratio Sales to Prod...	134.8%	112.3%	90.3%	83.7%	98.3%	102.1%

Gasoline Produced by Various Methods, Week Ended September 26

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	6,101,000	58.4	10,874,000	61.5	5,721,000	64.0	3,148,000	88.6	1,471,000	24.5	27,315,000	58.6
Cracked.....	3,967,000	38.0	5,402,000	30.6	1,975,000	22.1	201,000	5.7	3,338,000	55.6	14,883,000	31.9
Natural.....	377,000	3.6	1,394,000	7.9	1,239,000	13.9	201,000	5.7	1,192,000	19.9	4,403,000	9.5
Total.....	10,445,000		17,670,000		8,935,000		3,550,000		6,001,000		46,601,000	

+ or — columns are % changed over previous week.

Gasoline Shipments Cut 5,000,000 Gallons

Staff Special—By Telegraph

TULSA, Oct. 6

TANK wagon price reductions had their effect on gasoline shipments from Mid-Continent refineries in the week ended Oct. 3 as buyers waited out the market. Shipments from refineries reporting weekly to this publication dropped 5,000,000 gallons, every district except Louisiana-Arkansas reporting a decrease.

At the same time refiners cut their still charges 15,600 barrels daily average and reduced their output of gasoline 2,500,000 gallons. The lower rate of output enabled refiners to cut reserves 500,000 gallons. Small cuts in stocks were made in all districts except Kansas and West Texas.

Kerosine output was unchanged from the previous week but shipments dropped and stocks increased 600,000 gallons. Distillate demand also was lower and stocks increased 56,000 gallons.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Oct. 3. Change in stocks figures from Sept. 5.

GASOLINE

	Gallons
Production	194,260,000
Shipments	204,924,000
Net change in stocks	—10,664,000
Ratio sales to production	105.5%

KEROSINE

Production	23,109,000
Shipments	21,810,000
Net change in stocks	+1,299,000
Ratio sales to production	94.4%

STOVE DISTILLATE

Production	5,919,000
Shipments	6,070,000
Net change in stocks	—151,000
Ratio sales to production	102.6%

GAS OIL

Production	23,939,000
Shipments	26,476,000
Net change in stocks	—3,415,000
Ratio sales to production	110.6%

FUEL OIL

Production	106,493,000
Shipments	107,804,000
Net change in stocks	—1,311,000
Ratio sales to production	101.2%

Gas oil stocks were reduced 1,600,000 gallons when shipments increased while output was reduced. Every group except Louisiana-Arkansas drew on storage to meet the week's demand.

Fuel oil stocks were reduced slightly when demand jumped 2,200,000 gallons while production was off as a result of lower crude runs.

To Market Colonial Lubes

The Colonial Beacon Oil Co. has reserved full rights to the name "Colonial" for lubricating oils and greases in addition to gasoline and other products according to W. L. Stephens, assistant secretary. In an article on Page 98 of the Sept. 10 issue the company's reasons were given for changing the corporate name of the company from Beacon to Colonial Beacon but it was not stated that the company is to market lubes under the Colonial trademark at some future time.

Hadlick to Address Texas Marketers

HOUSTON, Oct. 6.—Paul E. Hadlick, secretary of the marketing division, American Petroleum Institute, and other speakers will be on the program of the Texas Petroleum Marketers Association at Mineral Wells, Oct. 23 and 24.

L. H. Flinn, managing director, announces other speakers of nationwide reputation will be included, but pending receipt of their acceptance of invitation he is withholding announcements.

A day and a half will be devoted to practical discussion of problems confronting the petroleum industry, with members of the state A. P. I. code committee, district chairmen and vice chairmen present.

"Merchandising policies and trends are rapidly changing," said Mr. Flinn, who added: "Unless so-called Independent jobbers keep fully informed they cannot hope to compete. How are jobbers over the state coping with marketing conditions. An interchange of ideas will help to plan intelligently for the future. Where can this be better done than at this state meeting?"

Dixie Announces New Franchises

CLEVELAND—Ten franchises to sell Dixie brand gasoline have been issued since July. These are the Service Oil Co., Morrison, Ill.; Gitche Gumee Oil Co., Ontonagon, Mich.; Hutula Oil Co., Covington, Mich.; Mapleton Oil Co., Mapleton, Iowa; Dawson Oil Co., Dawson, Iowa; Hoegh Oil Co., Atlanta, Iowa; Penn Central Oil Co., Kansas City, Kan.; Dixie of Jefferson, Jefferson, Wis.; Dixie Oil Co., Barton, Wis.; and Dixie Oil Co., Glenbeulah, Wis.

VAPOR PHASE REFINING

WILL

Increase your gasoline yields,
Improve your gasoline quality,
and
Reduce your refining costs.

THE GRAY PROCESSES CORPORATION
961-975 Frelinghuysen Avenue
NEWARK, NEW JERSEY

Big Protection at Little Expense

The cost of one special Sweetland Filter for re-filtering lube oils at the shipping point is small.

But the protection is big. . it protects the shipper against any rejections or adjustments due to contaminating solid matter being shipped with the oil.

The cost is small . . . why not get your Sweetland *today?*

OLIVER UNITED FILTERS INC.

SAN FRANCISCO, Fed. Reserve Bank Bldg. NEW YORK, 33 West 42nd St.
CHICAGO, 565 Washington Blvd. LONDON, W. C. 1, 150 Southampton Row
PARIS, 63 Ave. des Champs Elysees. T. L. Genter, Concessionaire

FOR 40 CENTS A DAY

the OILGRAM gives you accurate market information you couldn't gather yourself for less than

$40 A DAY

The OILGRAM'S staff at each of the four publication points—Tulsa, Chicago, Cleveland, New York—make *daily* personal calls, and use long distance phone and telegraph services freely in gathering the market information in each day's issue of the OILGRAM.

The OILGRAM brings you the gist of this expensive market check every day at a low cost—$65 for 6 months, or $100 a year, payable in advance—less than 40 cents a day.

Keep yourself posted *daily* on prices and important market developments through the OILGRAM.

Send your order or wire your nearest mailing point, and the OILGRAM will be started to you immediately. Make check payable to The W. C. Platt Company or Platt's Oilgram.

TULSA—904 World Building
CLEVELAND—1213 West Third Street
CHICAGO—35 East Wacker Drive
NEW YORK—342 Madison Avenue

MELLOWED A HUNDRED MILLION YEARS

While ferns grew high as trees in PENNSYLVANIA

53,000,000 people will see this photograph in newspapers, rotogravures, magazines! It will catch their attention as it caught yours . . . it will lead them on to interesting, sales compelling paragraphs telling why Sinclair Mobiline is the finest *Pennsylvania* grade motor oil.

Sinclair Mobiline is refined from Bradford-Allegany crude deposited in the Pennsylvania field during the Devonian Age. Sinclair Mobiline is refined in the largest single refinery using *Pennsylvania* grade crude exclusively.

Test Sinclair Mobiline for yourself. Note how little is used up from oil-change to oil-change . . . positive, visible proof that Sinclair Mobiline stays in the engine and protects the last mile as well as the first!

On the Radio. Hear Phil Baker, Shaw and Lee in the new Sinclair program "Going Places". Monday and Friday evening over Columbia stations.

Sinclair Refining Company, (Inc.), New York, Atlanta, Chicago, Houston, Fort Worth, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Company of California, Los Angeles.

SINCLAIR MOBILINE

Reg. U. S. Pat. Off. 1905. Renewed 1925

Pennsylvania MOTOR OIL

Made in the newest, largest single refinery using PENNSYLVANIA grade crude exclusively.

Guaranteed by SINCLAIR REFINING CO. INC. to be 100% pure PENNSYLVANIA GRADE OIL

35¢ *per quart*

©1930, S. R. C.

Refinery - Tank Wagon Markets

Gasoline Markets Continue Unsettled As Retail Price Cuts Spread

CLEVELAND, Oct. 7

REFINERY markets for gasoline throughout the United States continued more or less unsettled during the week ended Oct. 4. Declining retail markets of the previous week spread to the east and south as Atlantic Refining Co. and Standard Oil Co. of Louisiana announced reductions of 1 to 2 cents.

Throughout the Mid-Continent there was a general scaling down of tank car prices as a result of the tank wagon and service station price reduction announced by the Standard of Indiana. Prices in north and west Texas and Oklahoma were 0.25 to 0.5 cent lower.

U. S. Motor in the Chicago market, taking in offers from all sections of the Mid-Continent, was quoted only 0.125 cent lower on the low end of the price range. The average price in this market was down 0.375 cent, however, as sales at the higher quotations diminished in volume.

There was considerably less price shading reported in eastern markets generally and open market buying picked up materially. At the same time additional local retail price cuts in important consuming districts tended to undermine the confidence of the trade in the current price structure.

Small independent service station operators along the Pacific coast continued to undersell the larger companies as much as 6 cents a gallon. A tendency was noted among this class of dealer, however, to advance prices in an effort to avoid a recurrence of last summer's price war, which, it was said, was imminent.

Burning oil activity picked up materially in practically all sections of the country. Prices made the most notable gains in the Chicago market. Home burner oils advanced 0.125 to 0.25 cent a gallon in this market and industrial fuel oils, 2.50 to 5 cents a barrel.

Lubricating oil prices sagged in the Pennsylvania market but held fairly steady in the Mid-Continent and Gulf coastal regions.

Export markets generally were inactive. There were a few scattered inquiries reported from the west coast but foreign buyers who had been actively inquiring for shipments from the Gulf withdrew their offers to buy following the export association's reduction in posted prices.

Burning Oil Prices Advance in Chicago

Staff Special

CHICAGO, Oct. 4

A DECLINE of approximately 0.25 cent in spot tank car gasoline prices and advances in prices of low cold test furnace oils were the most noticeable events of the Chicago Resale market in the week ended Oct. 4.

The gasoline market was in an unsettled condition as the week ended. Spot tank car prices eased off 0.25 cent following the 2-cent reduction in retail gasoline prices early in the week, and reports of still lower prices were numerous.

Carlot marketers differed considerably in their opinions of resale buying prices for U. S. Motor. A few reported buying Motor in both Oklahoma and North Texas as low as 5.375 cents. Several others said that 5.50 cents was the low. Still others said that they could buy at 5.50 cents in North Texas, but that 5.625 cents was the lowest they could buy at in Oklahoma.

Spot sales of U. S. Motor to jobbers generally were reported at 5.875 to 6.25 cents on Sept. 29 and at 5.625 to 6.25 cents on Oct. 4. Most of the 5.625-cent sales were being made by carlot marketers, although it was reported Oct. 4 that several North and West Texas refiners were offering Motor direct to jobbers at this price. Other carlot marketers reported sales at 5.75 and 5.875 cents.

A number of Oklahoma refiners continued to ask 6.50 cents for U. S. Motor but reported only an occasional sale at this figure. Others quoted 5.75 to 6 cents. Refiners in the Indiana-Illinois district generally quoted 5.75 to 6.25 cents.

Jobbers in Indiana and Michigan continued to purchase their gasoline at lower prices than prevailed for most other points in the Standard of Indiana territory. According to Chicago sellers, delivered prices for U. S. Motor gasoline in lower Michigan generally ranged from 8 to 8.50 cents, with most of the lower priced goods coming out of Pennsylvania. For Indiana delivery, sales of Motor were reported at 5.25 to 5.75 cents, f.o.b. Group 3.

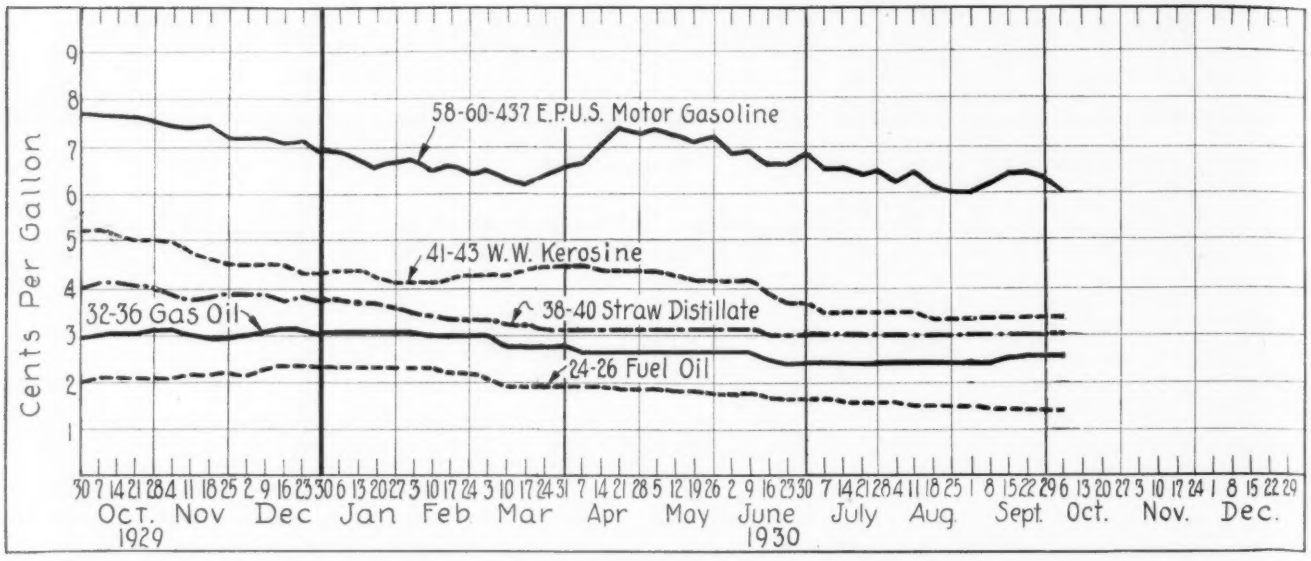
It was reported here Oct. 4 that a number of the larger refiners doing business in Michigan had advanced their delivered prices to industrial concerns, 0.375 to 0.50 cent. Sellers who had quoted as low as 7.50 cents delivered, were asking 8.25 cents or higher, according to reports.

Demand for high gravity gasoline and kerosine remained quiet in most quarters. Prices on the former generally were 0.125 to 0.25 cent lower, while not much change was noted in kerosine prices.

While tank car and tank wagon demand for furnace and low cold test fuel oils was not as heavy as during the last few days of the previous week, nevertheless these products were probably the most active spots in the current market.

Tank car prices for both industrial gas oil and zero gas and fuel oils were higher in most sections. In line with these advances in wholesale burner oil prices, a number of tank wagon distributors of these oils advanced their retail delivered prices 0.25 cent on several grades. The new

Current Prices of Principal Mid-Continent Refined Products


58-60-437 E.P.U.S. Motor Gasoline
41-43 W.W. Kerosine
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Cents Per Gallon
Oct. Nov Dec Jan Feb Mar Apr May June July Aug. Sept. Oct. Nov. Dec.
1929
1930

Prices shown are in Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

prices for Chicago delivery are 18-20 fuel, 5 cents; 24-26 fuel, 5.25 cents; 28-30 fuel, 6.25 cents; and 32-36 dark zero gas oil, 6.75 cents a gallon.

Occasional shower periods are likely next week over the Standard of Indiana territory with temperatures moderate in most sections.

"Big Four" Jobbers to Hear How to Make More Money

KANSAS CITY, Mo., Oct. 4.—Profits will be discussed from several angles at the Big Four State jobbers' convention to be held at the President Hotel, here, on Oct. 14, 15 and 16, according to the program sent out by George S. Allee, president, Missouri Oil Men's Association. States represented in the "Big Four" are Missouri, Kansas, Iowa and Nebraska.

"The Code—A Guide to Fair Business Profits on a Fair Basis" will be discussed by Paul E. Hadlick, secretary, division of marketing, American Petroleum Institute, New York.

"Bigger Profits in Better Merchandising," by R. M. Ward, Skelly Oil Co., Eldorado, Kan.

"Stations, Sales and Service—We Must Take up the Slack," by G. French, Sinclair Refining Co., New York.

"Super Service Stations—Are They Practical?" by Ken Cloud, editor, Super Service Station, Chicago.

"Where Do We Go From Here?" by Frank Moore, Continental Oil Co., Ponca City, Okla.

"Safety in Handling Petroleum Products," by H. N. Blakeslee, National Safety Council, Chicago.

"Character in Business," by J. L. Doyle, S. F. Bowser & Co. Inc., Fort Wayne, Ind.

A barbecue dinner and entertainment in the form of a rodeo will be provided for visiting jobbers and their wives by the Kansas City Oil Men's club the evening of Oct. 15.

LOUISVILLE—Hiram P. Roberts, president of the Roberts Bros. Oil Co. organized here in 1908, died Sept. 23 following a week's illness. He was 62.

Mr. Roberts' company operates several service stations in Louisville.

Buffalo Compounder Has New Official

BUFFALO, N. Y.,—Paul E. Fitzpatrick, former owner of the Revere Oil Co. here, has become vice president and treasurer of American Lubricants Inc., with headquarters at Buffalo.

The company has an expansion program under way and was to move around the first of October into its new plant at 1575 Clinton St., according to George W. Miller, president. The company makes industrial and automotive lubricants branded Glidex and Lubrikut.

Shipments From Southern California

LOS ANGELES, Sept. 27.—Bulk petroleum shipments from Southern California ports to Foreign and Atlantic Seaboard ports for week ended Sept. 27 totaled 1,221,634 as compared with 1,287,972 for the previous week. Destination and quantity of shipments were as follows:

Destination	Crude	Gasoline	Diesel	Kerosine	Fuel	Gas-Oil	Total
Pacific For.	85,300	121,756	107,044	62,809	199,962	21,001	597,870
Atlantic Dom.	.....	407,189	.....	.....	.....	.....	407,189
Atlantic For.	.....	216,575	.....	.....	.....	.....	216,575
							1,221,634

Prices 10 Years Ago
Oct. 4, 1920

	Oklahoma	Penna.
58-60 U. S. Motor	22.00-22.50c	25.00-25.50c
80-84 Natural	20.00-21.00c	.....
Kerosine (42-43 Okla.; 47 w. w. Pa.)	9.25-9.50c	14.50c
Fuel Oil (24-26 Okla.; 36-40 Pa.)	$2.50-$2.60	11.25-11.50c
Crude (Okla. 35-35.9)	$3.50	$6.10
Chicago tank wagon (no state tax)		27.00c

Prices A Year Ago
Oct. 7, 1929

	Oklahoma	Penna.
58-60 U. S. Motor	7.6830c	8.50-9.25c
Grade A Natural	6.50-6.625c	.....
Kerosine (Okla. 41-43; Pa. 47 w. w.)	5.00-5.50c	7.00-7.50c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.825-$0.90	4.50-4.75c
Crude (Okla. 35-35.9)	$1.40	$3.30
Chicago tank wagon (including 3c tax)		19.00c

Mid-Continent Refinery Markets

Gasoline Markets Continue Unsettled

Staff Special
TULSA, Oct. 4

MID-CONTINENT gasoline markets settled slowly this week, following tank wagon and service station price reductions in several territories, and were still in an uncertain position at the close of business Oct. 4.

A wide range of prices developed before the end of the week after refiners had spent the first two days of the week "feeling out the market." Two or three refiners announced they would make no price reductions for gasolines but others reduced their quotations 0.25 to 0.50 cent a gallon.

Two or three other refiners made no reduction in prices to jobbers but dumped a large quantity of gasoline at low prices through brokers. One Tulsa broker was reported to have handled 50 cars for an Oklahoma refiner at 5.375 cents a gallon, the refiner allowing the broker 0.125 cent a gallon commission.

Several marketers meanwhile took advantage of the situation to quote gasolines short for October delivery, at prices ranging from 5.50 cents up.

North Texas refiners reduced their prices to around 5.75 cents a gallon for U. S. Motor, with corresponding reductions on the other grades. West Texas refiners lowered quotations to 5.50 cents and up, while the Louisiana and Arkansas refiners quoted 5.875 cents and up for northern shipment, but had a 6.50 cent price for differential shipment.

The reduction in tank wagon and service station prices by Standard Oil Co. of Louisiana Oct. 2 created a tight situation in that territory, particularly with a 6.50-cent refinery price for gasoline. How long that situation would exist was problematical, but it was doubtful Oct. 4 if the differential territory price would remain at 6.50 cents very long in view of the lower prices quoted in north Texas.

The Louisiana and Arkansas refiners have to be governed to a large extent by the north Texas prices since the refiners in the latter named district have been in the habit of moving into that differential territory in the southeast whenever possible in the past two or three years.

The proration clouds cleared somewhat this week but the jobbers continued to remain out of the market as much as possible. Reports received by sales managers from their territories indicated jobbers almost without exception had little gasoline in storage and were buying strictly on a hand-to-mouth basis.

Orders invariably were for rush shipment, and were generally small in volume. The total volume of business on both contract and spot orders, however, was reported to have held up fairly well throughout the week.

Natural gasolines rode out the week comparatively steady despite the fact that normally there is a period around the first of each month when buying is light. The prices for grade AA sagged slightly Oct. 2 when one company sold a quantity at 5.75 cents, but this slack was quickly taken up when several buyers became active with offers of 6 cents for all grades of gasoline. The buying was for both prompt and over-the-month shipment.

Except for a few isolated instances naturals were reported scarce for prompt shipment by Oct. 4. Proration continued to hold down production in the Mid-Continent while demand remained brisk from Gulf coast refiners as well as from the refiners in the Mid-Continent who were preparing for the seasonal demand for a more volatile motor fuel.

Kerosine demand remained light in most districts with the possible exception of north Texas where the oil was reported somewhat scarcer at unchanged prices.

Demand for distillates with a low flash and good odor was good, a majority of sellers reported. The oil was scarce for prompt shipment but prices remained depressed due to the sluggish kerosine market. Contract shipments were reported somewhat larger in volume but no material change in price was anticipated until after the country had experienced at least one cold spell.

Gas oils also were in active demand. The zero, straw colored oils were extremely scarce in all districts and prices in some quarters were advanced slightly. Refiners for the most part continued to store a considerable portion of their production in expectation of better prices later in the winter.

Fuel oils were in steady demand at generally unchanged prices. The low gravity, high cold test oils were plentiful, but the high gravity, low cold test grades were extremely scarce in the Mid-Continent area.

No changes were noted in neutral oils and cylinder stocks prices in the course of the week. Demand for the neutrals was slightly improved but bright stocks were sluggish with competition keen for what business existed.

Wax prices were steady with demand showing some improvement in a few quarters.

A. M. Ballard
New sales manager of H. F. Wilcox Oil & Gas Co., Tulsa

Ballard Becomes Wilcox Sales Manager

TULSA, Oct. 4.—A. M. Ballard became sales manager of the H. F. Wilcox Oil & Gas Co., October 1. He succeeded Mac Kennedy, who resigned some time ago to become associated with a Texas refining company.

Mr. Ballard is one of the well known men in the Mid-Continent. He resigned recently as district sales manager for the Sun Oil Co. The Sun company sent Mr. Ballard to Tulsa as its first southwestern district representative in 1922, after he had been with the company six years. As district sales manager he directed the company's production, refining, natural gasoline, transportation and marketing activities in the Mid-Continent.

Mr. Ballard also was well known in the natural gasoline industry. He served at one time as vice president of the Natural Gasoline Association of America.

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect October 6

	Price F.O.B. Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	5.7500	(Wt. Avg.)	5.7500	(Wt. Avg.)	
Kansas	6.00–6.50				S. O. Neb. & Indiana Territory, etc.
Kansas			6.4062	(Wt. Avg.)	Kansas only.
North Texas	5.75–6.00		5.75		
West Texas	5.50–5.75		5.50 –6.00		
Louisiana-Arkansas	5.875–6.00				Michigan, Ohio and Indiana.
Louisiana-Arkansas			6.50		State or differential haul.
Indiana-Illinois	5.75–6.25			*	S. O. Indiana territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Chicago Resale Market

CHICAGO, Oct. 4

SPOT tank car gasoline demand was light in the Chicago market this week. Prices generally were 0.25 cent lower. Furnace oils remained in steady demand and were somewhat higher in price. Sales of U. S. Motor gasoline were reported Oct. 4 at 5.625 cents, as against a low of 5.875 cents on Sept. 29. Motor for Michigan shipment generally was reported moved at 8 to 8.50 cents, delivered, and for Indiana delivery were at 5.25 to 5.75 cents, f.o.b. Group 3.

Following prices represent majority of sales made on Group 3 freight basis, although shipments may originate in other refining districts such as North and West Texas, Arkansas, Louisiana, Indiana, Illinois, Kentucky, etc.

	Prices Oct. 6	Prices Sept. 29	Prices Sept. 12
58-60 U. S. Motor, 437 e.p.	5.625– 6.00	5.875– 6.25	6.125– 6.50
†56-62 400-437 e.p. anti-knock gasoline	6.50 – 7.375	6.50 – 7.375	6.50 – 7.375
60-62 437 e.p. gasoline	5.75 – 6.125	6.00 – 6.375	6.25 – 6.50
60-62 400 e.p. gasoline	6.125– 6.375	6.375– 6.625	6.50 – 6.625
64-66 375 e.p. gasoline	6.50 – 6.875	6.75 – 7.00	6.75 – 7.00
68-70 350-360 e.p. gasoline	6.875– 7.25	7.00 – 7.25	7.00 – 7.25
*Domestic Aviation Gasoline	8.25 – 8.75	8.25 – 8.75	8.25 – 8.75
4 - 43 w.w. kerosine	3.125– 3.375	3.125– 3.375	3.125– 3.375
4 -44 w.w. kerosine	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
38-40 straw distillate	2.875– 3.00	2.875– 3.00	2.875– 3.00
32-36 ordinary dark gas oil	2.25 – 2.375	2.125– 2.375	2.125– 2.375
32-36 dark zero gas oil	2.375– 2.625	2.375– 2.50	2.25 – 2.50
32-36 straw zero gas oil	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
28-30 zero fuel oil (per bbl.)	$0.825–$0.875	$0.80 –$0.85	$0.80 –$0.825
28-30 fuel oil (per bbl.)	$0.80 –$0.825	$0.80 –$0.825	$0.775–$0.825
24-26 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
18-22 fuel oil, low sulfur (per bbl.)	$0.50 –$0.525	$0.50 –$0.525	$0.475–$0.525
18-22 fuel oil, high sulfur zero (per bbl.)	$0.50 –$0.55	$0.50 –$0.55	$0.50 –$0.525
14-16 fuel oil (per bbl.)	$0.425–$0.475	$0.425–$0.475	$0.425–$0.475

*Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

†Over 45% benzol equivalent. Prices represent quotations and sales.

Weighted Average Prices

OKLAHOMA

	Oct. 6		Sept. 29		Sept. 22	
	No. of Cars	Price	No. of Cars	Price	No. of Cars	Price
58-60 U. S. Motor, 437 e.p.	4	5.7500	4	6.3125	4	6.4687
60-62 437 e.p. gasoline	6	6.1667	..	6.50–6.75 (See note)	..	6.50–6.75 (See note)
60-62 400 e.p. gasoline	1	6.7500	1	6.7500	..	6.75–7.00 (See note)
64-66 375 e.p. gasoline	..	7.00 (See note)	..	7.00–7.25 (See note)	..	7.00–7.25 (See note)
58-60 437 e.p. gasoline (Full U. S. Motor specifications not guaranteed.)	..	5.75–6.25	..	6.125–6.375	..	6.125–6.375

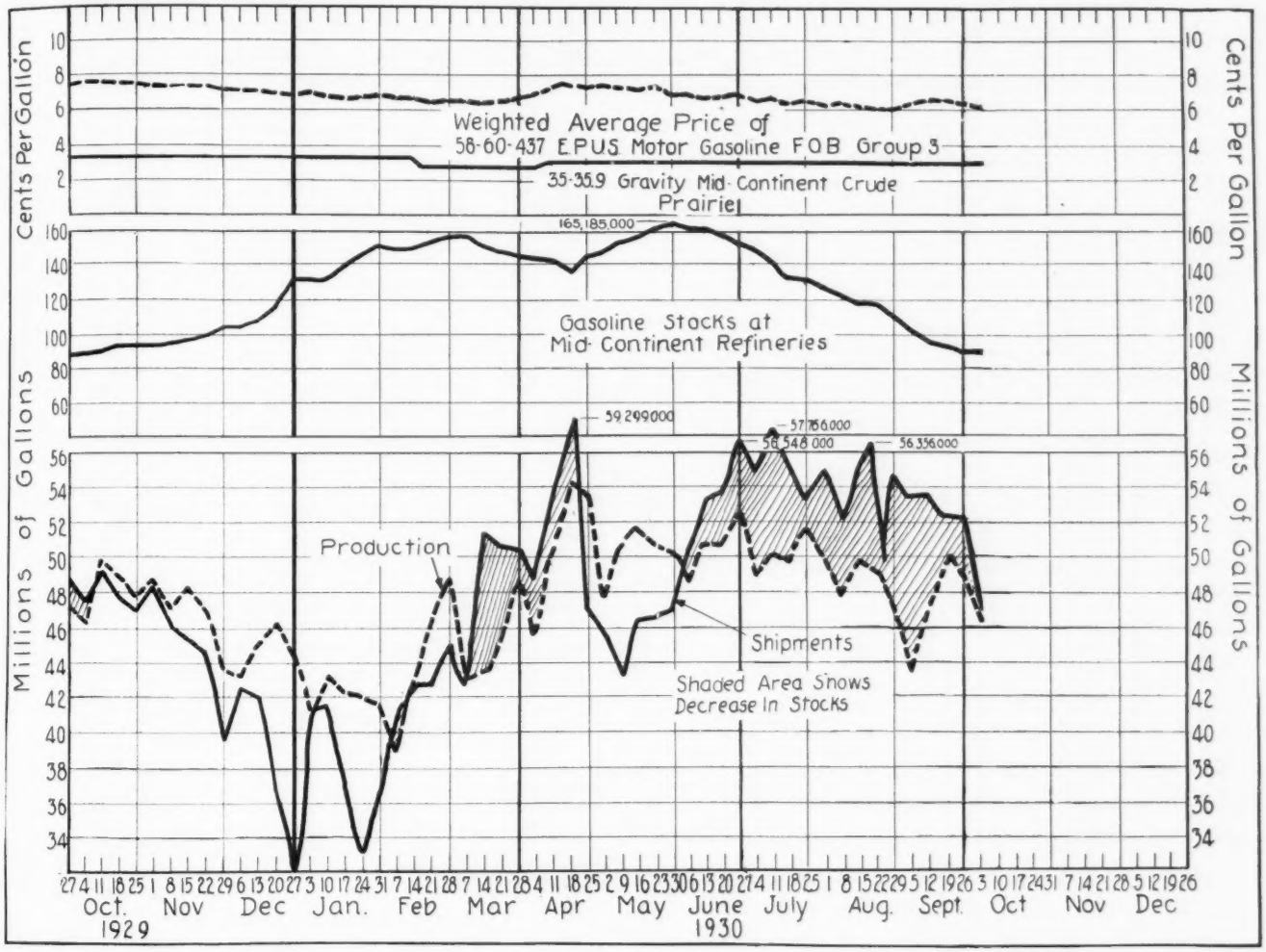
KANSAS

	Oct. 6		Sept. 29		Sept. 22	
	No. of cars	Price	No. of cars	Price	No. of Cars	Price
58-60 U. S. Motor, 437 e.p.	8	6.4062	11	6.6250	9	6.7361

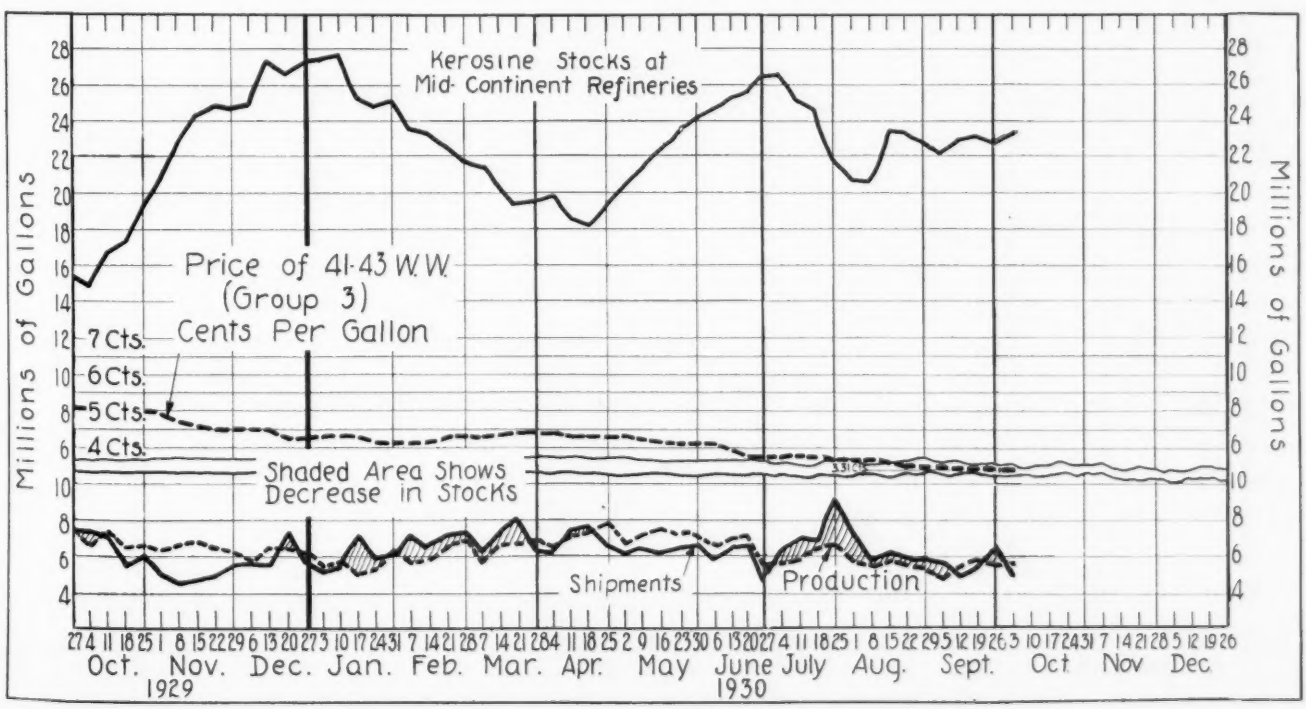
Note: No sales reported for the gasoline marked "see note" on the dates so marked; prices shown on such dates represent majority of quotations only.

Barometer of Mid-Continent Refinery Market—Week Ending October 3,

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News



Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 98



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
48-50 450 e.p. naphtha...	5.75	6.00	6.00
50-52 450 e.p. naphtha...	5.75	6.00	6.00
56-58 450 e.p. gasoline...	5.75 – 6.00	6.00 – 6.25	6.00 – 6.25
58-60 450 e.p. gasoline...	5.75 – 6.00	6.00 – 6.25	6.00 – 6.25
64-66 390 e.p. gasoline...	6.625– 6.75	6.625– 6.75	6.625– 6.75
68-70 350-360 e.p. gasoline	7.50	7.50 – 7.75	7.50 – 7.75
‡Domestic Aviation Gasoline.....	7.50 – 8.50	7.50 – 8.50	7.50 – 8.50

‡Prices based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167° F., and not less than 122° F.; 50% rec. at 221°; 90% at 311°; 96% at 347°; end point, 374°F. Fighting grade in some instances sells at a premium over domestic aviation grade.

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

52-54 Naphtha.....	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
54-56 Naphtha.....	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
58-60 U.S. Motor 437 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
60-62 400-410 e.p. gasoline	6.625– 7.25	6.75 – 7.25	6.75 – 7.25
64-66 390 e.p. gasoline...	7.25 – 7.50	7.50 – 8.25	7.50 – 8.25
68-70 350-360 e.p.....	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline

Ohio, delivery at any point.....	9.00	9.00	9.00

KANSAS (F. o. b. refinery Kansas destination)

60-62 437 e.p. gasoline...	6.75	7.00 – 7.25	7.00 – 7.25
60-62 400 e.p. gasoline...	7.00	7.25 – 7.50	7.25 – 7.50
64-66 375 e.p. gasoline...	7.25	7.50 – 7.75	7.50 – 7.75

NORTH TEXAS (F. o. b. North Texas refineries)

56-58 450 e.p. gasoline...	5.50 – 5.75	6.00	5.50 – 5.75
58-60 450 e.p. gasoline...	5.50 – 5.75	6.00	5.50 – 5.75
58-60 U.S. Motor 437 e.p.	5.75	6.00 – 6.25	6.125– 6.25
60-62 400 e.p. gasoline...	6.00	6.50	6.50
64-66 390 e.p. gasoline...	6.25	6.50 – 6.75	6.50 – 6.75
64-66 375 e.p. gasoline...	6.50	6.75	6.75
68-70 350-360 e.p. gasoline	7.00	7.25	7.25

WEST TEXAS (F. o. b. West Texas refinery, for unrestricted shipment)

50-52 naphtha.....	5.25	5.50	5.50
58-60 437 e.p. gasoline....	5.50	5.75 – 6.00	5.75 – 6.00
58-60 U.S. Motor 437 e.p. gasoline.....	5.50 – 6.00	6.25 – 6.50	6.25 – 6.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

58-60 U.S. Motor 437 e.p.	6.50	6.50	6.50

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	6.50	6.50	6.50

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	10.00 –12.50	9.00 –12.50	9.00 –12.00
54-58 U.S. Motor, for outside state shipment....	8.00 – 9.50	7.50 – 9.50	8.00 –10.00
58-61 375-400 e.p. gasoline	11.00 –13.50	11.00 –13.50	11.00 –13.00
42-45 Engine Distillate 445-480 e.p.....	9.00 –10.50	8.00 – 9.50	8.00 – 9.25

NATURAL GASOLINE

(Note: End point of all grades, not over 375F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA (F. o. b. Oklahoma refineries)

Grade AA, 80-87.9, 90% Recovery.....	5.875–6.00	6.00	6.00
Grade A, 72-79.9, 90% Recovery.....	6.00	6.00	6.00
Grade BB, 84-92, 85% Recovery.....	6.00	6.00	6.00
Grade B, 76-83.9, 85% Recovery.....	6.00	6.00	6.00
Grade C, 80-92, 78% Recovery.....	6.00	6.00	6.00

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery.....	6.00	6.00	6.00
Grade A, 72-79.9, 90% Recovery.....	6.00	6.00	6.00
Grade BB, 84-92, 85% Recovery.....	6.00	6.00	6.00
Grade B, 76-83.9, 85% Recovery.....	6.00	6.00	6.00
Grade C, 80-92, 78% Recovery.....	6.00	6.00	6.00

NORTH LOUISIANA (F. o. b. Monroe District)

	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
Grade AA.....	†6.00	†6.00	†6.00
Grade BB.....	†6.00	†6.00	†6.00
Grade C.....	†6.00	†6.00	†6.00

CALIFORNIA (F. o. b. California refineries)

75-85, 375-390 e.p. for blending.....	7.75 – 9.00	7.25 – 8.50	7.25 – 8.50

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

45 w. w. kerosine.....	4.875– 5.25	4.875– 5.25	4.875– 5.25
46 w. w. kerosine.....	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
47 w. w. kerosine.....	5.375– 6.00	5.375– 6.00	5.375– 6.00
300 mineral seal.....	5.00 – 6.00	5.00 – 6.00	5.50 – 6.00

OKLAHOMA (F. o. b. Oklahoma refineries)

41-43 w.w. kerosine.....	3.125– 3.50	3.125– 3.50	3.125– 3.50
42-44 w.w. kerosine.....	3.50 – 4.00	3.50 – 4.00	3.50 – 4.00

KANSAS (F. o. b. refinery Kansas destination)

41-43 w.w. kerosine.....	4.00 – 4.25	4.25 – 4.50	4.25 – 4.50
42-44 w.w. kerosine.....	4.75	4.75 – 5.00	4.75 – 5.00

NORTH TEXAS (F. o. b. North Texas refineries)

40-42 w.w. kerosine.....	3.00	3.00	3.00
41-43 w.w. kerosine.....	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosine.....	4.00	4.00 – 4.25	4.00 – 4.25
42-44 w.w. kerosine.....	4.25	4.25 – 4.50	4.25 – 4.50

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 w.w. kerosine.....	4.00	4.00	4.00

CALIFORNIA (F. o. b. California refineries)

38-40 w.w. kerosine.....	5.00 – 6.00	5.00 – 6.00	5.00 – 6.00

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.	(Viscosity at 70° F.)		
200 No. 3 Assoc. Filt.....	17.50 –20.00	18.00 –21.00	18.00 –21.00
180 No. 3 Assoc. Filt.....	16.00 –17.00	16.00 –17.00	16.00 –17.00
150 No. 3 Assoc. Filt.....	11.25 –13.00	11.25 –13.00	11.50 –13.00
	(Non Viscous)		
34 Grav. 330-340 Flash..	5.50 – 6.50	5.50 – 6.50	5.75 – 6.50

****MID-CONTINENT** (F. o. b. Mid-Continent refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 2.....	6.00	6.00	6.00
150—No. 3.....	7.50	7.50	7.50
150—No. 4.....	7.00	7.00	7.00
180—No. 3.....	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
180—No. 4.....	8.50	8.50	8.50
180—No. 5.....	8.00	8.00	8.00
200—No. 3.....	10.00 –10.50	10.00 –10.50	10.00 –10.50
200—No. 4.....	10.00	10.00	10.00
200—No. 5.....	9.50	9.50	9.50
220—No. 3.....	12.50	12.50	12.50
220—No. 4.....	12.00	12.00	12.00
220—No. 5.....	11.00	11.00	11.00
240—No. 3.....	13.50 –14.00	13.50 –14.00	13.50 –14.00
240—No. 4.....	12.50 –13.00	12.50 –13.00	12.50 –13.00
240—No. 5.....	12.00	12.00	12.00
280—No. 3.....	16.00	16.00	16.00
280—No. 4.....	15.00	15.00	15.00
280—No. 5.....	14.00	14.00	14.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents Both Sales and Quotations.

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL (F. o. b. Gulf Coastal refineries)

Vis. Color	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
	(Viscosity at 100° F. pour test 0)		
100—No. 2 Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200—No. 3 Pale	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
300—No. 3 Pale	10.75 –11.00	10.75 –11.00	10.75 –11.00
500—No. 3½ Pale	12.00 –12.25	12.00 –12.25	12.00 –12.25
750—No.4 Pale	13.50 –13.75	13.50 –13.75	13.50 –13.75
1200—No. 4 Pale	16.00 –16.50	16.00 –16.50	16.00 –16.50
2000—No. 4–5 Pale	17.00 –17.50	17.00 –17.50	17.00 –17.50
200—No. 5½ Red Oil	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
300—No. 5½ Red Oil	10.00 –10.25	10.00 –10.25	10.00 –10.25
500—No. 6 Red Oil	11.25 –11.50	11.25 –11.50	11.25 –11.50
750—No. 6 Red Oil	12.75 –13.00	12.75 –13.00	12.75 –13.00
1200—No. 5-6 Red Oil	15.00 –15.25	15.00 –15.25	15.00 –15.25
2000—No. 6 Plus Red Oil	17.00 –17.50	17.00 –17.50	17.00 –17.50

‡Color No. of 1200 pale oil should have been 4, instead of 5, and of 2000, color No. should have been 4-5, instead of 4, as shown in previous issues.

‡CALIFORNIA (F. o. b. California refineries)

Vis. Color			
	(Viscosity at 100° F.)		
100—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200—No. 3	11.50	11.50	11.50
300—No. 3	13.00	13.00	13.00
450—No. 3	15.50	15.50	15.50
550—No. 3	16.50	16.50	16.50
600—No. 3	17.00	17.00	17.00
200—No. 5	11.00	11.00	11.00
300—No. 5	12.00	12.00	12.00
400—No. 5	14.00	14.00	14.00
500—No. 5	15.00	15.00	15.00
600—No. 5	16.00	16.00	16.00
700—No. 7	18.00	18.00	18.00

‡Neutral oils not manufactured commercially in California

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)

(Bright stock prices represent quotations to domestic jobbers only.

190-200 Vis. D at 210° Brt. St.	30.00	30.00	30.00
150-160 Vis. D at 210° Brt. St., 15-20 cold test	23.00 –24.00	23.00 –24.00	23.00 –25.00
150-160 Vis. D Brt. Stock, 25-45 cold test	20.00 –23.00	20.00 –23.00	22.00 –24.00
150-160 Vis. E 210° Brt. St.	20.00 –23.00	20.00 –23.00	23.00
600 St. Ref. Olive Green	8.00	8.00	8.00
600 St. Ref. Dark Green	8.00	8.00	8.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (F. o. b. Western Penna. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable	10.25 –11.50	11.00 –11.50	11.00 –11.50
650 Steam Refined	15.00 –16.00	15.00 –16.00	15.00 –16.00
600 Flash	17.00 –19.00	17.00 –19.00	17.00 –19.00
630 Flash	24.00 –28.00	25.50 –28.00	25.50 –28.00
600 Warren E	16.50 –18.00	16.50 –18.00	16.50 –18.00
600 Oil City E	15.50 –17.00	15.50 –17.00	15.50 –17.00
600 D Filtered	19.00 –20.00	19.00 –21.00	19.00 –21.00
Cold Test Stock, 140-150 vis. at 210°, 540-550 flash, No. 8 color, below 35 pour test	23.00 –25.00	23.50 –25.00	23.50 –27.00
No. 8 color, above 35 pour test	19.50 –21.00	20.50 –23.00	21.00 –23.00
No. 6-6½ color diluted, 40-50 pour test	†19.00 –21.00	20.00 –22.00	20.00 –22.00

WAX

PENNSYLVANIA (Per pound, F. o. b. New York)

122-124 white crude scale, a.m.p.	2.25 – 2.50	2.375– 2.50	2.375– 2.50
124-126 white crude scale, a.m.p.	2.375– 2.50	2.375– 2.50	2.375– 2.50

****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)

124-126 White Crude Scale, a.m.p.	2.25	2.25	2.25

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	3.875 – 4.00	4.00 – 4.25	4.00 – 4.25
30-34 fuel oil	3.75 – 4.00	4.00	4.00
23-28 fuel oil	3.75 – 4.00	4.00	4.00

OKLAHOMA (F. o. b. Oklahoma refineries)

	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
38-40 straw distillate	3.00 – 3.125	2.875– 3.125	2.875– 3.125
36-38 straw distillate	2.875– 3.00	2.75 – 2.875	2.75 – 2.875
32-36 straw gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
32-36 straw gas oil zero	2.75 – 2.875	2.75	2.75
32-36 dark gas oil	2.375– 2.50	2.25 – 2.375	2.25 – 2.375
32-36 dark gas oil zero	2.75 – 2.875	2.625– 2.75	2.625– 2.75
28-30 zero fuel oil (per bbl.)	$0.85 – 0.90	$0.85 – 0.90	$0.85 – 0.90
28-30 fuel oil (per bbl.)	$0.80 – 0.825	$0.80 – 0.825	$0.80 – 0.825
26-28 fuel oil (per bbl.)	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
24-26 fuel oil (per bbl.)	$0.575– 0.65	$0.575– 0.65	$0.575– 0.65
22-26 fuel oil (per bbl.)	$0.575– 0.60	$0.575– 0.60	$0.575– 0.60
18-22 fuel oil (per bbl.)	$0.475– 0.525	$0.475– 0.525	$0.475– 0.525
16-20 fuel oil (per bbl.)	$0.425– 0.475	$0.425– 0.475	$0.425– 0.475
14-16 fuel oil (per bbl.)	$0.40 – 0.45	$0.40 – 0.45	$0.40 – 0.45

KANSAS (F. o. b. refinery Kansas destination)

38-40 straw distlllate	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
36-38 straw distillate	3.00	3.00	3.00
32-36 straw gas oil	3.00	3.00	3.00
18-22 fuel oil (per bbl.)	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
10-14 fuel oil (per bbl.)	$0.55 – 0.65	$0.55 – 0.65	$0.55 – 0.65

NORTH TEXAS (F. o. b. North Texas refineries)

38-40 straw distillate	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
38-40 p.w. treated distillate	3.125– 3.25	3.125– 3.25	3.125– 3.25
32-36 gas oil, cracked	2.375– 2.50	2.375– 2.50	2.375– 2.50
32-36 St. reduced gas oil	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
24-26 fuel oil (per bbl.)	$0.50 –$0.55	$0.50 –$0.55	$0.50 –$0.55
20-24 fuel oil (per bbl.)	$0.45 –$0.50	$0.45 –$0.50	$0.45 –$0.50
18-22 fuel oil (per bbl.)	$0.40 –$0.45	$0.40 –$0.45	$0.40 –$0.45

****WEST TEXAS** (F. o. b. West Texas refinery, or unrestricted shipment)

34-38 gas oil	2.25 – 2.50	2.25 – 2.50	2.25 – 2.50
30-32 gas oil	1.875– 2.125	1.875– 2.125	1.875– 2.125
28-30 zero gas oil	2.25 – 2.50	2.25 – 2.50	2.25 – 2.50
18-22 fuel oil (per bbl.)	$0.50 –$0.60	$0.50 –$0.60	$0.50 –$0.60

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	*3.25	*3.25	*3.25
32-36 gas oil, straw	*3.25	*3.25	*3.25
14-16 fuel oil (per bbl.)	$0.75 –$0.85	$0.75 –$0.85	$0.75 –$0.85

ARKANSAS (Ark., N. La. and Miss destination)

32-36 gas oil, straw	3.25	3.25	3.25
32-36 dark gas oil	3.25	3.25	3.25
28-30 gas oil	3.00	3.00	3.00
20-24 fuel oil (per bbl.)	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
9-12 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Black oil	3.25	3.25	3.25

CALIFORNIA (F. o. b. San Joaquin Valley. Nominal pipe line charge to San Francisco 24c per bbl. more and to San Pedro 20c per bbl. more.)

14-18 fuel oil (per bbl.)	$0.55 – 0.65	$0.55 – 0.65	$0.55 – 0.65
14-18 Bunker oil (per bbl.)	$0.70 – 0.85	$0.70 – 0.85	$0.70 – 0.85
30-34 gas oil (per bbl.)	$0.85 –$0.95	$0.90 –$1.00	$0.85 – 1.00
27 Plus Diesel oil (per bbl.)	$0.80 –$0.85	$0.85 –$1.00	$0.85 – 1.00

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.50	8.50	8.50
Lily White	7.50	7.50	7.50
Cream White	6.50	6.50	6.50
Light Amber	3.375– 3.625	3.375– 3.625	3.375– 3.625
Amber	3.125– 3.375	3.125– 3.375	3.125– 3.375
Red	2.875– 3.00	2.875– 3.00	2.875– 3.00

PETROLEUM COKE

****OKLAHOMA** (F. o. b. Oklahoma refineries)

(Per ton in car lots)

Lump	$4.50 –$5.00	$4.50 –$5.00	$4.50 –$5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents Both Sales and Quotations.

Letters to the Editor

Mr. Warren C. Platt, Editor,
NATIONAL PETROLEUM NEWS,
Cleveland, Ohio.

Dear Sir:

We note in this week's NEWS that you show the tank wagon price here as being 13½c, whereas it is 11½c, all taxes included. The tank wagon price to the Major Companies' Commission Agents, as their dealers are called by them, is 9½c per gallon, which after deducting 5c for taxes nets the Major Companies 4½c per gallon. How they or any other organization can pay for crude, refine, and market with a profit upon this basis is beyond us.

The true situation is that the Code of Ethics has enabled them to get together to "freeze" the Independent out, for this condition has been going on here over a year. The tank car price is 12⅝c on shipments from Shreveport to this point, so it can easily be seen there is something wrong somewhere.

To our mind every law in the country appears to be violated, and so far nothing seems to be done, at least no one cares, and inasmuch as the NEWS is read and subscribed by thousands of Independents throughout the United States, we have been wondering why no articles on such conditions have appeared.

A publication first and last should aim to furnish impartially news of any value to the industry it represents. We have been noting among several newspapers, etc. the tendency to lean to the side of the large advertisers, and we earnestly believe that you can render a greater service to the majority of your readers by writing up on conditions such as the above which appear in different sections of the country.

Yours truly,
STERLING PETROLEUM CORP.,
C. A. Emling, Manager.

* * *

Cleveland, Ohio,
Sept. 25, 1930

Mr. C. A. Emling,
Sterling Petroleum Corp.,
New Orleans, La.

Dear Sir:

Yours of the 20th addressed to Mr. Platt I am answering in his absence from the city, although I will see that your letter is brought to his attention and he may want to make further reply to it later.

With regard to your first point the tank wagon price which we show at New Orleans as at other points in the country is the price which the principal marketing company in the territory officially notifies us is its tank wagon market. We carry a note in bold face type to the effect that there is a discount of 2c to dealers from this posted tank wagon price.

NATIONAL PETROLEUM NEWS has always followed this policy of publishing as the tank wagon market what the principal marketing companies in the territories publicly issued as its tank wagon price in that territory. It would be impossible for us to attempt to do otherwise for it would mean that for every point in the country at which we quote a price, we would have to have our own agent to establish what the actual tank wagon price was. We've always carefully tried to define in our tank wagon market table what the prices we were quoting were. That is we have tried to impress upon our readers that these were official posted prices as given us by the various marketing companies.

In this connection I know you will be interested in an editorial on this subject which was written by Mr. Platt and appeared in our issue of Sept. 17th.

If you have any evidence to the effect that the state committee on the Code of Ethics there in Louisiana has been using its meetings as a place to discuss prices, then I think you would indeed be warranted in placing this information before the Federal Trade Commission, for obviously this is in every way contrary to the plan and purpose of the Code of Marketing Practices. That code, of course, specifically refrains from any mention in any way of prices except in the clause in which it says that the price at which the company sells to the public must be posted, but, of course, it makes no stipulation as to what that price might be in relation to prices of other companies.

NATIONAL PETROLEUM NEWS does try to publish, I can assure you, impartially the news of the oil industry, regardless of whether that news puts large companies in a favorable or unfavorable position before the public.

At such times as the present, as you are yourself well aware, when market conditions over the country are in a more or less chaotic state there is always a good deal of rumor and gossip around as to practices being carried on by various companies. A good part of this is nothing more than the merest rumor and is used by the dealer trade largely to get more favorable prices out of another oil company. Rumor as such we cannot publish, however.

Very truly yours,
V. B. Guthrie,
Managing Editor.

* * *

Dear Sir:

In further answer to yours of September 20th which was answered by Mr. Guthrie, Managing Editor.

I would call your attention to the extreme competition in this country and particularly to the fact that every oil company practically, is trying to sell more oil and gasoline each year than the natural increase in consumption is. In other words, if 10 per cent more gasoline was consumed in New Orleans this year than last, I will venture that the majority of companies there decided to increase their gallonage 15 per cent to 25 per cent and more even.

The oil companies seem to feel that by sales work they can increase their market, that is, consumption. Obviously, sales work has nothing to do with how many gallons of gasoline an automobile will consume in a year. Sales work can only try to take the business of one car owner away from another oil company.

We have preached time and time again and we are going to preach some more, that the industry wake up to a realization that its increase in consumption each year is limited and cannot be increased or decreased by any effort that the oil industry makes, and therefore if there is not to be too much competition and low price, then each oil company must decide to plan his facilities and increased business for not more than the natural increase in his territory.

The situation is deplorable but I don't know of a thing that can be done about it until and unless every single oil man wakes up and practices this most fundamental truth.

Very truly yours,
NATIONAL PETROLEUM NEWS
W. C. Platt,
President.

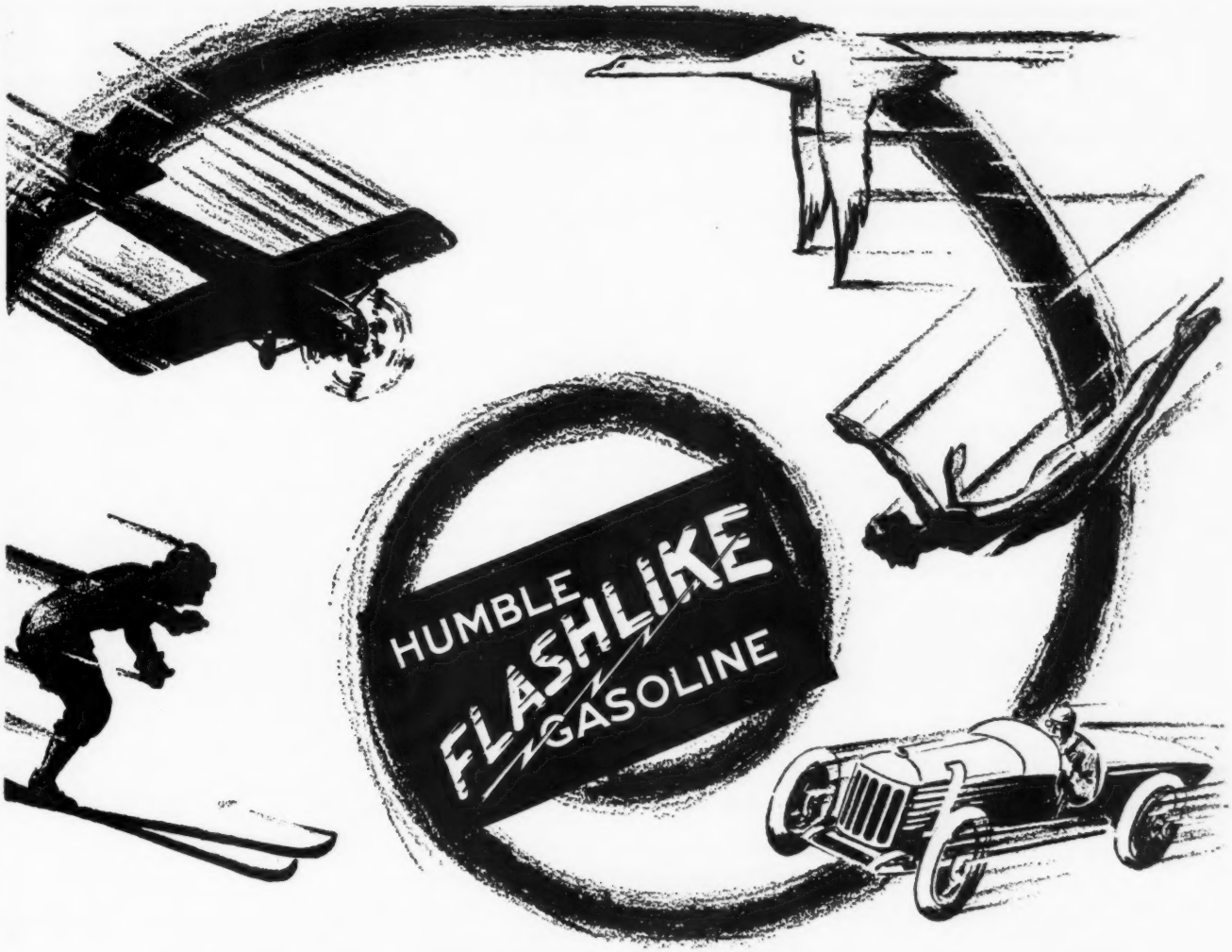
Staebler Buys Hoff & Smith

ANN ARBOR, MICH.—Purchase of the Hoff & Smith Oil Co. of Howell, Mich. by the Staebler Oil Co. here, added to the latter's oil distribution facilities five bulk plants, about 75 station outlets in Washtenaw and Livingston counties and 20 tank trucks.

The Staebler company has been in business for 12 years, starting with one curb pump. The recent acquisition places it among the first six Independent oil companies in Michigan.

The company is a member of the Dixie group, selling Dixie gasoline and oils. Paul R. Kempf, secretary and sales manager, is chairman of the Dixie Inter-State Board which governs the organization. Other officers of the Staebler company are: J. Fred Staebler, president; Edward W. Staebler, vice president; and Neil Staebler, treasurer.

CLEVELAND—New Dixie distributors in Kansas, announced in a recent issue of The Dixie Drum, are the Buser Oil Co., Seneca; Farmers Oil Co., Heizer; W. B. Fee Oil Co., Zenith; Home Gasoline & Oil Co., Home; Neill Oil Co., Bennington; Sharp Oil Co., Miltonvale; S. & S. Oil Co., Delphos; Utica Co-operative Oil & Supply Co., Utica; and the Winters Oil Co., Little River.



SPECIFICATIONS

LABORATORY ANALYSIS		WHAT IT MEANS TO YOUR MOTOR
Initial Boiling Point	110 Maximum	Easy starting---First in the get-away---No sputtering
% distilled at 221° Fahr. % distilled at 284° Fahr. % recovery	25 Minimum 52 Minimum 97%	More power, long burning stroke, less gear shifting
End Point	400	Complete vaporization---complete combustion
Doctor Test	OK	Clean odor---never offensive
Corrosion Test	OK	No choking or corrosion of gas line
Color	Plus 25	Highly refined, clean, and clear
Sulphur	less than 1/10 of 1% Max.	No pitting of valves, or fouling of oil
Gum Test	OK	No resinous precipitate to clog carburetor

Humble Oil & Refining Company
Houston, Texas

California Refinery Market

Trading Quiet; Prices Unchanged

LOS ANGELES, Oct. 4.

EXCEPT for intermittent inquiries from foreign buyers Pacific coast markets remained practically in status quo the past week.

As usual the right prices bring willing buyers, but the general feeling was that at present consumers are at least sufficiently stocked, if not overstocked.

Prices for practically all commodities for export were unchanged the past week. Gas oil and kerosine were the only exceptions to the rule. These commodities were reported in slightly better demand with prices displaying advancing tendencies. Offers from buyers of $0.80 per barrel for gas oil were turned down by refiners and only scattered sales of small quantities were reported at $0.85.

Local oil market conditions reflected those prevailing in all commodity markets along the west coast. The move of independents to increase tank wagon prices from 12.50 to 14.50 cents seems to have eased somewhat the crisis that has existed for the past several weeks. Independents claimed that the increase would mean more money to them in that they could still undersell the major companies despite the jump of 2 cents a gallon.

The attitude of the major companies was that the independents were forced to make the raise through fear of another disastrous price war such as the one last summer which nearly ruined independent dealers throughout the state.

To points within the state U. S. Motor gasoline in tank car lots moved at prices ranging from 10 to 12.50 cents per gallon, exclusive of tax. In Oregon and Washington the price range was from 8.50 to 9.50 cents, but keener competition in the southwest—Arizona, Utah and Nevada—found prices there as low as 8 cents.

West Virginia Refiners Seek Lower Rates

CLEVELAND, Oct. 6.—Railroad rates that will permit West Virginia refiners to compete on an equitable basis in West Virginia with refiners in other states who ship their products into West Virginia, have been asked of the Public Service Commission of the state by a group of refiners and gasoline manufacturers.

The complaining companies are the Elk Refining Co., Pure Oil Co., Ohio Valley Refining Co., South Penn Oil Co. and Virginian Oil Co. The latter two have absorption plants in the state but no refineries.

The railroads complained against are the Baltimore & Ohio, Chesapeake & Ohio, Norfolk & Western, Pennsylvania, Virginian and Western Maryland. These companies have made a formal denial of the charges in the complaint and a hearing will probably be held before the end of this year.

The refiners seek a rate structure comparable to structures in other states. At present it is possible to ship as far west as the Mississippi as cheaply at to ship 30 or 40 miles to some West Virginia points, one refiner said. Increased competition is foreseen by the West Virginians with the expansion of pipeline and water transportation from the Atlantic seaboard into the Ohio valley.

Clifton M. Ricketts

C. M. Ricketts Dies After Long Illness

CHICAGO, Oct. 6.—Clifton M. Ricketts, known to hundreds of refiners and marketers in the middle west, died at the home of his brother-in-law in Toledo, O., on Sept. 5. He had been ill for the past four years.

Mr. Ricketts entered the oil business in 1918 with the marketing firm of Anderson & Gustafson. He served as manager in offices at St. Louis, Wichita Falls, Ft. Worth and Dallas. Later he was manager of sales for the Caddo Central Oil & Refining Co. at Shreveport.

More recently Mr. Ricketts represented the Spencer Petroleum Co. of Chicago, in north Texas.

British Reduce Gasoline Prices

LONDON, Sept. 23.—For the first time in many months gasoline prices have undergone a general reduction throughout the United Kingdom. The reduction is equivalent to four cents per gallon and was announced by the National Petroleum Distributing Companies as follows:

"Following weaker prices in America, together with lower tanker freights, the National Petroleum Distributing Companies announce that from Sept. 23 the price of motor spirit is reduced 2d per gallon, and the price of kerosine is reduced ½d to 1d per gallon, according to areas."

In London, which is the lowest priced zone in the British Isles, gasoline will now cost 1s 4½d (33 cents) per gallon, instead of 1s 6½d (37 cents). In England, Wales and Southern Scotland the new prices will be 1s 5d (36 cents), while in outlying districts it will be 1s 6d (38 cents).

S. O. Louisiana to Drop Commercial Discounts

CLEVELAND, Oct. 6.—Standard Oil Co. of Louisiana has announced that it is discontinuing commercial discounts at its service stations in Louisiana, Arkansas, and Tennessee but is continuing its discount of 1 cent a gallon on gasoline for cash at time of delivery. The discount of 2 cents a gallon from the posted retail tank wagon price continues for resale and dealer accounts.

The company reduced its posted tank wagon and service station prices 1 cent a gallon Oct. 2 generally through its territory.

Its announcement concerning abolition of commercial discounts was:

"We will discontinue making any contracts with commercial consumer trade for service station delivery and where we have such contracts now in force, notice is hereby given that same are canceled in accordance with 10-day cancellation clause contained in such contracts, on and after this date and until further advised, no discount from our posted service station price is to be allowed to anyone for service station delivery, with the exception of the cash discount of 1-cent per gallon for cash at time of delivery."

Large competing companies have not yet announced they will follow the action of the Standard.

Pennsylvania Markets

Several Products Quoted Lower

CLEVELAND, Oct. 6.—Prices of several commodities in the western Pennsylvania refinery market showed substantial recessions in the week ended Oct. 4. Neutral oils, cylinder stocks, and bright stocks lost more ground than other commodities. Kerosine and fuel oil reacted only slightly. Gasoline generally was steady.

With the spread between prices for cylinder stocks and bright stocks gradually narrowing, bright stock manufacturers withheld placing their orders for October requirements of steam refined stocks until late in the week, or several days beyond the usual time. Filterable steam refined stock, due largely to scarcity, was at a minimum of 11 cents up to that time. The turn of the month found considerably more steam refined being offered and prices dropped as much as 0.75 cent a gallon in some instances.

Most of the bright stock offered at reduced prices was of the cold settled variety, although in some instances sharples stocks with below 35 pour test were sold at price concessions. No. 8 color bright stock, above 35 pour test, was quoted at 19.50 to 21 cents at the end of the week against a price range of 20.50 to 23 cents prevailing at the opening of the market Monday.

There was little demand for neutral oils. The 200 No. 3 color grade sold 0.5 cent lower at 17.50 cents and the 150 No. 3 color grade was quoted at 11 cents by some sellers although the majority of sellers on the low side of the market asked 11.25 cents.

Demand for kerosine and fuel oil continued fair to good, according to reports from most sections of the field, but the recent acute scarcity of these commodities had passed. Practically all grades of both commodities were offered 0.125 cent a gallon lower.

Some sellers reported unusually good demand for gasoline while others said their stocks were beginning to pile up. U. S. Motor was generally unchanged at 6.50 to 7 cents.

Gulf Lube Movement Fair

HOUSTON, Oct. 4.—Pale and red lubricants continue in fair demand in Gulf Coastal markets. Some shading of prices is reported, but lists showed no change over the past week. For the most part, manufacturers are balancing their manufactures in line with selling requirements, thereby maintaining a steadier market than last winter and spring.

HAVE YOU DECIDED TO DYE?

DO IT WITH DYKEM GREEN GN
or ONE of the MANY OTHER ATTRACTIVE

Dykem Gasoline Colors

That INCREASE SALES

Write for prices and samples of shades preferred

DYESTUFFS & CHEMICALS, INCORPORATED
11th & MONROE STS. ST. LOUIS, MO.

Skilled Supervision
Guarantees the Quality of
Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER — ENGINE — CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta,
Houston, New Orleans

Eastern Domestic Markets

Gasoline Demand Fairly Active

Staff Special
NEW YORK, Oct. 4

EASTERN gasoline markets were fairly active this week. New York harbor traders reported good demand for U. S. Motor at prices ranging from 7.50 to 7.75 cents.

Representatives of several of the larger companies stated that their gasoline stocks were now in good shape and indicated that a normal volume of business was coming in.

Rumors of substantially lower prices for U. S. Motor at New York were totally lacking the past week, whereas during the last two weeks of September selling was fraught with disorder. Barge business continued to be transacted on the basis of 7.25 to 7.375 cents f.o.b. New York harbor, but 7.50 cents was the minimum price at which any substantial volume of spot tank car sales were made.

The market for California gasoline at New York harbor remained unchanged at 8 to 8.25 cents with sellers reporting a slightly better demand from the jobbing trade.

The Philadelphia and Baltimore markets for regular U. S. Motor gasoline were generally unchanged at 7.75 to 8 cents. The market for California gasoline in the former district leveled out to 8.25 cents flat and, according to reports, this figure was not being shaded. In the Baltimore district, where 8 cents generally was quoted for California gasoline, rumors of price shading still persisted.

New England markets were unsettled. On Oct. 3 Standard Oil Co. of New York reduced tank wagon and service station prices of gasoline 2 cents at Boston to 12.5 cents and 14.5 cents, respectively, excluding tax. Major companies who follow Standard's plan of selling in tank cars at a delivered price of 6.50 cents under the service station price, now quote 8 cents, delivered in Boston.

Kerosine prices remained generally unchanged in all districts. Good demand for this commodity at 6.75 cents was reported in New York.

Gas oil demand was satisfactory for the season according to reports from traders in both the New York and Boston districts. Furnace oil demand was quiet with prices unchanged.

Talk Changes In Explosive Shipping

NEW YORK—Railroad transportation committee members of the American Petroleum Institute's division of marketing attended a conference held by the Bureau of Explosives here on Oct. 6. They were to consider suggested changes in Interstate Commerce Commission regulations governing shipment of explosives and other dangerous articles.

New regulations of the Commission became effective Oct. 1. The next conference will be held Feb. 2, 1931 to consider proposals for changes which proposals are to be filed with the bureau not later than Dec. 1.

More Changes on Code Committees

NEW YORK—New members appointed by the American Petroleum Institute to serve on its various state code committees include J. C. Willing, Cities Service Oil Co., Cleveland, who is to serve on the Ohio code committee; R. C. Maslowski, Cities Service Oil Co., Grand Forks, N. D., who is a member of the North Dakota code committee; and H. G. Denham, Standard Oil Co. of California, San Francisco, who succeeds E. R. Rich, General Petroleum Corp., as secretary of the Pacific Coast region code committee. Mr. Rich remains a member of the committee.

---

32 A. P. I. Directors to Be Elected

NEW YORK—At the annual meeting of the American Petroleum Institute at Chicago, Nov. 10 to 13, 32 new directors will be elected to fill that number of expired terms.

The terms expiring include those of five directors each in the production and manufacturing groups, and four in the distribution group, all in the Pacific Coast, central and eastern United States districts. Two terms expire in the transportation group, one in supply, and one in foreign trade group.

Gulf Coast Markets

Foreign Buyers Withdraw Inquiries

Staff Special
NEW YORK, Oct. 4

GULF Coast markets were inactive the past week from the standpoint of both foreign and domestic business. In contrast with the recent potential export business in the market, the past week saw a sudden retirement of foreign buyers.

The lower prices posted by the export association did not stimulate the immediate action from abroad that was expected. The opinion was expressed in several quarters that the general unsettled condition of markets in the United States was responsible for the present attitude of foreign buyers.

The anticipated revival of domestic business was not forthcoming during the past week. The lack of activity in this section of the market made it difficult for traders to assert themselves regarding prices.

U. S. Motor gasoline for coastwise shipment was available at 6.50 cents a gallon from one or two sources with indications that this price would be shaded at least 0.125 cent on firm offer from a buyer.

Prices for cased lots of gasoline and kerosine for export generally were steady. U. S. Motor was quoted at a flat price of $1.75 with 64-66, 375 e.p. gasoline at $1.85. Most sellers asked $1.50 per case for water white kerosine although several sales were reported by one seller at $1.45. Prime white was quoted at $1.35 per case.

Cargo prices for bunker oil showed little change. In some quarters it was indicated that $0.75 might be shaded for export on firm offer.

Panuco heavy crude continued steady at $0.55 per barrel. The market for Venezuela crude was quiet with the last paid price of $0.75 per barrel still the minimum quotation.

"Petroleum Facts" Brought to Date

NEW YORK.—The third edition of "Petroleum Facts and Figures" has been published and brought up-to-date by the American Petroleum Institute, under the direction of Leonard M. Fanning, director of the Institute's public relations department.

This book includes figures on the production, consumption and exports of crude and major refined products; discussions and statistics on the refining industry, transportation, taxation and the utilization of various products, among other useful data.

Cost of the book is $2.00 and it may be obtained by writing the American Petroleum Institute, 250 Park Ave., New York, N. Y.

Wax Markets

Demand at Low Ebb

NEW YORK, Oct. 4.—Little demand for wax appeared in the market the past week according to dealers engaged in foreign and domestic business. The protracted lull in buying is unprecedented, some sellers reported. Prices in both the New York and New Orleans markets were unchanged.

N. P. N. Service Record

Some of the requests for information, data and advice, which were taken care of in various National Petroleum News offices in the past week are:

Major oil company furnished lowest prices of gasoline and kerosine over the past 10 years.

* * *

Large commerce association furnished names of refinery engineers.

* * *

Minnesota compounder told how to go about obtaining a first-class anti-knock motor fuel, and referred to three experimental laboratories for proportions in blending.

* * *

Toronto inquirer furnished with names and addresses of five engineering companies who plan and erect refineries and several companies from whom Oklahoma crude might be obtained by pipeline to the Great Lakes.

* * *

Washington securities company referred to book describing geological formations of Bakue oil fields of Russia which tells him also whether wells had been drilled through basalt.

* * *

New York oil distributor given figures on motor oil production, shipments, and consumption during past five years; automobile registration; motor oil and grease consumption by these cars and average per car consumption of gasoline, oil and grease.

* * *

Detroit inquirer referred to N.P.N. article on overcoming odors from refineries and referred to other sources for articles.

* * *

President of Texas engineering firm given data on refinery runs in 1929 and 1930.

* * *

Civil engineer of oil association told about geological conditions in Aldamas structure in Mexico.

* * *

Texas civil engineer given information on New Mexico oil leases.

* * *

Connecticut inquirer told about production in five Texas counties.

* * *

Texas operator furnished data on Southwest Texas leasing conditions.

* * *

Louisiana clearing house told where to obtain latest figures on resources and exports of two major oil companies.

* * *

Wisconsin oil company referred to source for model ordinance of National Fire Protection Association for bulk stations.

* * *

Ohio oil distributor referred to Feb. 19, 1930 N.P.N., page 81 for ten points for service station operation.

* * *

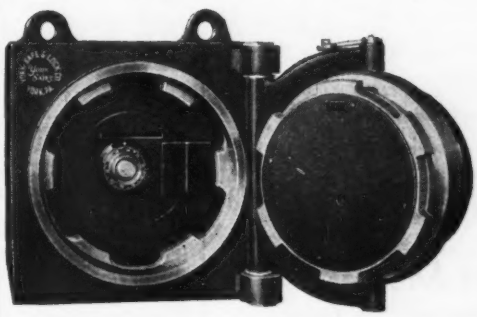
Kansas attorneys given number of service stations operated by largest oil companies.

* * *

Among other information furnished were Venezuela crude prices; information on discussions at coming National Petroleum Association meeting; dates of coming St. Louis meeting of the Independent Oil Men of America; sperm oil prices; all foregoing data given to oil companies operating world-wide.

PROTECTION FROM HOLD-UPS AS WELL AS BURGLARS

THE York Round Door Chest is not only thoroughly burglar proof. When desired, it may also be provided with an ingenious additional protection against the activities of bandits and hold-up men—the "Hold-up Partition". As a surplus of money is accumulated over the average amount for making change, it is slipped into the interior through the slot shown in the illustration. The operation of the inner door, however, is in the hands of an executive or trusted employe who collects the money at suitable intervals. The "Hold-up Partition" thus offers a disconcerting obstruction to bandits who attempt raids during business hours.



The York Chest, when installed, is anchored in a solid concrete block, giving complete protection against fire. It cannot be removed from the building or attacked at any point except the heavy, thief-proof door. The saving in burglary insurance alone will pay for the York Chest in a reasonable length of time.

YORK SAFES

Illustrated folder describing the York Round Door Chest in detail will be sent gladly on request. Write for it today.

YORK SAFE & LOCK CO.

York, Pennsylvania

NATURAL GASOLINE

Grades A · AA · B · BB · C

CONTRACT OR SPOT

WILLOCK OIL CORPORATION

First National Bank Building · Phone Atlantic 3110

PITTSBURGH, PA.

52 Years Experience · It Counts

Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations. Prices shown below do not include inspection tax levied in some states.)

U. S. MOTOR GASOLINE	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
New York harbor	7.50 – 7.75	7.50 – 7.75	7.75 – 8.25
Portland district	**9.00 – 9.75	**9.00 – 9.75	**9.25 – 9.75
Boston district	**8.00 – 8.50	**8.50 – 9.00	**8.75 – 9.00
Providence district	**8.00 – 9.00	**8.00 – 9.00	**8.50 – 9.00
Philadelphia district	7.75 – 8.00	7.75 – 8.00	8.00 – 8.25
Baltimore district	7.75 – 8.00	7.75 – 8.00	8.00 – 8.25
Norfolk district	7.75 – 8.00	8.00	8.50
Charleston district	8.00	8.00	8.50
Savannah district	8.25	8.25	8.50
Jacksonville district	7.75 – 8.25	7.75 – 8.25	8.50
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
Philadelphia district	8.25	8.25 – 8.50	8.25 – 8.50
Baltimore district	8.00	8.00	8.00 – 8.25
‡DOMESTIC AVIATION GASOLINE			
New York harbor	10.75 –12.00	10.75 –12.00	11.50 –13.00
Philadelphia	10.75 –12.00	10.75 –12.00	12.00
Baltimore	11.00 –12.00	11.00 –12.00	12.00 –12.50
Boston	11.50 –13.00	11.50 –13.00	11.50 –13.00

‡Prices are based on U. S. Gov't. specifications or better. Present Gov't. specifications require distillation range of 5% recovery at not more than 167°F., and not less than 122°F.; 50% recovery at 221°; 90% at 311°; 96% at 347°; end point 374° F. Gasoline of fighting grade specifications in some instances sells at a premium over domestic aviation grade. Prices represent majority of quotations.

WATER WHITE KEROSINE			
New York harbor	6.75	6.75	6.75
Philadelphia district	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
Baltimore district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
GAS OIL: 28-34 Gravity			
New York harbor	4.50 – 5.25	4.50 – 5.00	4.50 – 5.00
Boston district	4.75 – 5.25	4.50 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Boston district	5.50 – 6.00	6.00 – 6.25	6.00 – 6.25
GRADE C BUNKER OIL (Lighterage 5c per bbl. additional)			
New York Harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10

*Minimum delivered. †Nominal. **Delivered prices.

New York Export Market

(Lubricating oils are per gal. in bbls. F.a.s. New York)

	Oct. 6	Sept. 29	Sept. 22
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	28.50 –30.50	28.50 –30.50	28.50 –30.50
600 D filtered	26.50 –28.00	26.50 –28.00	26.50 –28.00
600 Warren E filtered	22.50 –25.00	22.50 –25.00	22.50 –25.00
600 stm. refd. unfiltered	16.50 –18.00	16.50 –18.00	16.50 –18.00
650 stm. refd. unfiltered	20.75 –22.00	20.75 –22.00	20.75 –22.00
600 flash, steam refined	23.50 –25.00	23.50 –25.00	23.50 –25.00
630 flash, steam refined	31.50 –33.00	31.50 –33.00	31.50 –33.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	19.00 –21.00	19.00 –21.00	19.00 –21.00
250 vis. No. 6 color	17.50 –18.50	17.50 –18.50	17.50 –18.50
200 vis. No. 6 color	16.00 –17.00	16.00 –17.00	16.00 –17.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¼ color	22.00	22.00	22.00
180 vis. No. 3¼ color	17.50 –18.00	17.50 –18.00	17.50 –18.00
100 vis. No. 2¼ color	14.25 –15.50	14.25 –15.50	14.25 –15.50
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	30.00 –32.00	30.00 –32.00	30.00 –32.00
500 vis. No. 6½ color	27.50 –30.00	27.50 –30.00	27.50 –30.00
400 vis. No. 7¼ color	26.00 –29.00	26.00 –29.00	26.00 –29.00
300 vis. No. 6 color	22.00 –26.00	22.00 –26.00	22.00 –26.00
200 vis. No. 6 color	21.00 –23.50	21.00 –23.50	21.00 –23.50

Wax Markets

(Prices in cents per pound, A.S.T.M. tests. A.M.P. F.a.s. carload lots)

NEW YORK	Oct. 6	Sept. 29	Sept. 22
124-126 Yellow crude scale	2.125– 2.25	2.125– 2.25	2.125– 2.25
122-124 White crude scale	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
124-126 White crude scale	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
123-125 Fully refined	3.125– 3.25	3.125– 3.25	3.125– 3.25
125-127 Fully refined	3.375– 3.50	3.375– 3.50	3.375– 3.50
128-130 Fully refined	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
130-132 Fully refined	3.625– 3.875	3.625– 3.875	3.625– 3.875
133-135 Fully refined	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
135-137 Fully refined	4.625	4.625	4.625
NEW ORLEANS			
124-126 Yellow crude scale	2.125– 2.25	2.125– 2.25	2.125– 2.25
122-124 White crude scale	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
124-126 White crude scale	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
123-125 Fully refined	3.125	3.125	3.125
125-127 Fully refined	3.375	3.375	3.375
128-130 Fully refined	3.50	3.50	3.50
130-132 Fully refined	3.625– 3.75	3.625– 3.75	3.625– 3.75
133-135 Fully refined	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted. Bulk gasoline and kerosine prices are posted quotations of the Export Petroleum Assoc., Inc., governing about 90% of the gasoline and kerosine shipped to foreign ports from the Gulf)

GASOLINE	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
U. S. Motor	7.00	7.00	8.00
60-62, 400 e.p.	7.50	7.50	9.00
61-63, 390 e.p.	7.75	7.75	9.25
64-66, 375 e.p.	8.00	8.00	9.50
U. S. Motor, cases (cargoes)	$1.75	$1.75	$1.80
64-66, cases (cargoes)	$1.85	$1.85	$1.875
KEROSINE			
44 water white	6.00	6.00	7.00
41-43 prime white	5.00	5.00	6.00
Water white, cases (cargoes)	$1.45	$1.45	$1.60
Prime white, cases (cargoes)	$1.35	$1.35	$1.50
GAS & BUNKER OILS			
*26-30 translucent gas oil	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
*30 plus translucent gas oil	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
Grade C bunker oil, per bbl., cargoes	$0.75 –$0.85	$0.75 –$0.85	$0.75 –$0.85

*Less than ½ of 1% sulphur.

MEXICAN CRUDE AND BUNKER OILS (f. o. b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.55 –$0.60	$0.55 –$0.60	$0.57 –$0.60
Grade C bunker oil for bunkering purposes, taxes paid, per bbl.	$1.00	$1.00	$1.00
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F. cold test 0 Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	5.75 – 6.125	5.75 – 6.125	5.75 – 6.125
200 vis. No. 3 unfiltered pale	8.00 – 8.75	8.00 – 8.75	8.00 – 8.75
300 vis. No. 3 unfiltered pale	8.875– 9.50	8.875– 9.50	8.875– 9.50
500 vis. No. 3½ unfiltered pale	10.25 –11.25	10.25 –11.25	10.25 –11.25
750 vis. No. 4 unfiltered pale	12.50 –13.25	12.50 –13.25	12.50 –13.25
1200 vis. No. 5 unfiltered pale	16.00 –18.00	16.00 –18.00	16.00 –18.00
200 vis. No. 5-6 red oil	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
300 vis. No. 5-6 red oil	8.375– 8.75	8.375– 8.75	8.375– 8.75
500 vis. No. 5-6 red oil	9.25 – 9.50	9.25 – 9.50	9.25 – 9.50
750 vis. No. 5-6 red oil	11.50	11.50	11.50
1200 vis. No. 5-6 red oil	15.00 –15.50	15.00 –15.50	15.00 – 15.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only.)

	Oct. 6	Sept. 29	Sept. 22
U. S. Motor gasoline	6.50 – 6.75	6.50 – 6.75	6.75 – 7.25
41-43 w.w. kerosine	4.75 – 5.00	4.75 – 5.00	4.75 – 5.125
*26-32 translucent gas oil	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
Grade C bunker oil, per bbl.	$1.00	$0.95 –$1.00	$1.05
Grade C bunker oil, per bbl. in cargoes	$0.72 –$0.85	$0.72 –$0.85	.....

*Less than ½ of 1% sulphur.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Oct. 6	Sept. 29	Sept. 22
Gasoline, U. S. Motor, 53-55 Gravity	6.50 – 7.50	6.50 – 7.50	6.50 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.25 – 8.25	7.25 – 8.25	7.25 – 8.25
Gasoline, 400 e.p. blend.	8.25 – 9.25	8.25 – 9.25	8.25 – 9.25
Gas Oil, 30-34, per bbl.	$0.85 –$0.95	$0.87 –$1.00	$0.87 –$1.00
Diesel Oil, 27 plus, per bbl.	$0.80 –$0.95	$0.85 –$1.00	$0.85 –$1.00
Bunker oil, 14-18, per bbl.	$0.65 –$0.90	$0.65 –$0.90	$0.65 –$0.90
Fuel oil, 14-18 per bbl.	$0.55 –$0.75	$0.60 –$0.85	$0.60 –$0.85
Kerosine, 38-40 w.w., 125-150 flash, per gal.	5.50 – 6.50	5.00 – 6.00	5.00 – 6.00
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Gasoline, 400 e.p. blend	$1.85 –$2.00	$1.85 –$2.00	$1.85 –$2.00
Kerosine, 38-40 w.w., 125-150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Note: Above Pacific Export market prices for gasoline and kerosine in cargo lots apply only on goods for coastwise shipment. Gasoline and kerosine prices for shipment to foreign ports are determined as follows: Difference in freight between U. S. Gulf to European Continent and California to European Continent —this difference plus 0.125c for handling, deducted from prices posted at U. S Gulf by the Export Petroleum Assoc., Inc., which are above prices.

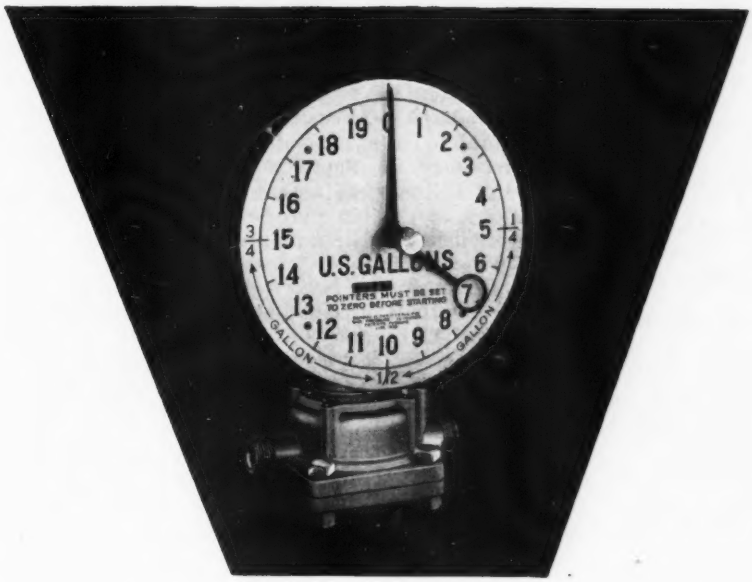
Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	Oct. 6 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	21	20
Gulf to U. K. or Continental ports*	11	11
North Atlantic to U. K. or Continental ports*	10	10
Calif. to North Atlantic ports (not E. of N. Y.)	$0.60	$0.60
Gulf to North Atlantic ports (not E. of N. Y.)**	16	18

*Continental ports in the range between Bordeaux and Hamburg, both inclusive. **Venezuela loading same rate. For Tampico 2c to 3c per bbl additional.

ALL PREVIOUS SALES RECORDS BROKEN



1930 has already proved to be a banner year for the Buffalo Gasoline Meter. All previous sales records have been broken by a large figure. Surely this is ample testimony to the supremacy of Buffalo Gasoline Meters.

And there must be some good reason why many of the largest meter pump manufacturers and some of the largest purchasers of meter pumps specify Buffalo Gasoline Meters for their equipment. The reasons are not hard to find.

1. The Buffalo Gasoline Meter is manufactured by the largest makers of strictly liquid meters in the world. Their experience dates back for 37 years. Their manufacturing methods reflect a genuine craftsmanship unparalleled in the industry.

2. Most of the improvements found in the present-day gasoline meters were pioneered by the Buffalo Meter Company. Many of these are covered by patents.

3. The Buffalo Gasoline Meter is the simple, single piston, positive displacement gasoline meter. This is the simplest type of any meter, and therefore the chances of mechanical difficulty are reduced to a minimum.

4. Exacting laboratory tests conducted during the past year by some of the country's largest users of gasoline meters proved conclusively the sturdiness and accuracy of Buffalo Gasoline Meters. Always a bear for punishment and continuous service, this meter will measure a million gallons without faltering.

If your company is not now using Buffalo Gasoline Meters . . . you should write for sample to test in your own laboratory. Gladly will we send sample for testing and complete information on Buffalo Gasoline Meters. Use coupon below for copy of new booklet, "Buffalo Gasoline Meters Overcome Competition."

BUFFALO METER CO., 2889 MAIN ST., BUFFALO, N. Y.

BUFFALO
GASOLINE TRADE MARK REG U.S. PAT OFF METERS

BUFFALO METER CO., 2889 Main St., Buffalo, N. Y.

☐ Please send, entirely without obligation on our part, a copy of your new booklet, entitled "Buffalo Gasoline Meters Overcome Competition."

☐ We are interested in corresponding with you with reference to having you send us a Buffalo Gasoline Meter for experimental purposes in our laboratory.

Signed Individual _____

Firm Name _____

Street address _____

City _____ State _____

133-135 Fully refined.... 4.25 – 4.375 4.25 – 4.375 4.25 – 4.375 | additional.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect Oct. 6, 1930, as Posted by Principal Marketing Companies

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New York—T. w. and s. s. cut 2c, Boston, to 14.5c and 16.5c, **Oct. 3.**

Atlantic Refining — T. w. and s. s. cut 1c thru Pennsylvania and Delaware, except Erie unchanged, **Oct. 1.**

T. w. and s.s. cut 2c thru New Jersey and Maryland, to meet S. O. New Jersey's reduction, **Sept. 24.**

S. s. only cut 2c, Jacksonville, to 19c, **Sept. 26.**

S. O. Ohio—Aviation gasoline cut 1c to 20c thru Ohio, **Oct. 1.**

T. w. cut 1c, s. s. 2c, Butler county, both to 17c, **Oct. 3.**

S. s. only up 1c. Richland county, to 19c, **Oct. 3.**

T. w. up 2c, s. s. 3c, Stark county, to 18c and 19c, **Oct. 4.**

S. O. Kentucky—S. s. only up 2c, Mobile, to 21c, **Sept. 24.**

T. w. and s. s. up 2c, Atlanta, to 21c and 22c, **Sept. 22.**

T. w. and s. s. up 2c, Macon, to 22c and 24c, **Sept. 22.**

S. s. only cut 2c, Jacksonville, to 19c, **Sept. 26.**

Magnolia Petroleum—T. w. up 3.5c, s. s. 5.5c, Fort Smith, to 15.5c and 17.5c, **Sept. 25.**

T. w. cut 0.5c, s. s. up 3.5c, Little Rock, to 16.5c and 18.5c, **Sept. 25.**

Continental Oil—T.w. and s.s. cut 2c, Montana and Wyoming, and cut 1c, Colorado, **Oct. 1.** Exceptions: t.w. and s.s. cut 0.5c at Cheyenne and 1c at Helena; t.w. only cut 5.5c at Butte, to 19c, including 5c tax, and discount of 5½c to dealers eliminated; Denver and Pueblo unchanged.

S. O. Nebraska—Aviation gasoline cut 2c, Omaha, to 20.25c, **Sept. 29.**

S. O. Louisiana—T.w. cut 1c, s.s. cut 2c, thru territory, **Oct. 2.** The 2c discount off service station price to commercial consumers was eliminated.

S. O. Indiana—Corrections: In the general 2c cut at normal points thru territory on Sept. 29, the following points were among the exceptions, and prices were incorrectly published at these points on page 108 of the October 1 issue of NATIONAL PETROLEUM NEWS:

Grand Rapids: T.w. should have been 15.7c and s.s. 16.7c, including 3c tax, in the Oct. 1 issue, following a 3c cut on Sept. 11 and no change on Sept. 29.

St. Joseph: T.w. should have been 15.5c and s.s. 11.9c, including 3c state and city taxes, s.s. price being 3.6c below t.w. S.s. price was cut 3c, Sept. 16, and 3.6c, Sept. 22. T.w. price was cut 2c in the general reduction of Sept. 29.

Bartlesville: This point was not unchanged, as reported in Oct. 1 issue, but t.w. and s.s. were cut 2c, to 15.5c and 18.5c, including 4c tax.

Decatur: S.s. should have been 17c, since Sept. 29, instead of 17.2c.

Kerosine

Atlantic Refining—Kerosine cut 1c thru Pennsylvania and Delaware, **Oct. 1.**

Kerosine cut 2c thru New Jersey and Maryland, except Baltimore cut only 0.3c, **Sept. 24.**

S. O. Kentucky—T.w. kerosine price which was shown at 11.5c at Mobile in last week's issue, was cut 1c on Aug. 25 to 12.5c. It was cut another cent on Sept. 24, to 11.5c.

Continental Oil—Kerosine cut 2c thru Colorado, Wyoming, and Montana, **Oct. 1.**

CONTINENTAL OIL

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Denver, Colo.	12	4	16	19	13.5
Pueblo, Colo.	13	4	17	20	13.5
Grand Junc., Colo.	16.5	4	20.5	23.5	17
Casper, Wyo.	13	4	17	20	12
Cheyenne, Wyo.	14	4	18	21	13.5
Butte, Mont.	14	5	19	22	18
Helena, Mont.	18.5	5	23.5	26.5	18
Salt Lake City, Utah	16.5	3½	20	23	17
Boise, Ida.	18.5	5	23.5	26.5	19
Twin Falls, Ida.	18.5	5	23.5	27.5	19
Albuquerque, N. M.	11	5	16	20	15

S. O. CALIFORNIA

	Gasoline Tax	Posted Retail Price	Posted Wholesale	Oil T.W.
Phoenix, Ariz.	4	17	20	20
Los Angeles, Cal.	3	20.5	22.5	15.5
Fresno, Cal.	3	21	23	17
San Francisco, Cal.	3	21	23	15.5
Reno, Nev.	4	26	28	19
Portland, Ore.	4	22.5	24.5	16.5
Seattle, Wash.	3	21.5	23.5	16.5
Spokane, Wash.	3	25.5	27.5	20.5
Tacoma, Wash.	3	21.5	23.5	16.5

Note: 6c per gal. discount to dealers off posted wholesale price of gasoline to customers taking tank truck delivery, thru S. O. California territory except 1c discount at Phoenix to dealers only. This discount determines net t.w. price.

S. O. LOUISIANA

	Gasoline Posted Retail T.W.	Tax	Total Posted T.W.	S.S.	Oil Posted Retail T.W.
Little Rock, Ark.	11.5	5	16.5	17.5	12
Alexandria, La.	11.5	*5	16.5	17.5	†13
Baton Rouge, La.	10.5	4	14.5	15.5	†13
Lake Charles, La.	11.5	*5	16.5	17.5	†13
New Orleans, La.	10.5	*5	15.5	16.5	†12
Shreveport, La.	10.5	4	14.5	15.5	†13
Lafayette, La.	11.5	*5	16.5	17.5	†13
Bristol, Tenn.	14	5	19	20	14
Chattanooga, Tenn.	13.5	5	18.5	19.5	13
Knoxville, Tenn.	14	5	19	20	15
Nashville, Tenn.	13	5	18	19	15
Memphis, Tenn.	12	5	17	18	12.5

Note: Discounts in S. O. La. territory: 2c per gal. off posted retail t.w. price to dealers and commercial consumers from the tankwagon; and 1c per gal. off s.s. price for cash paid at time of delivery at service stations.

***Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 4c state tax and 1c parish tax. New Orleans kerosine price includes 1c parish tax in addition to 1c state tax.**

†Kerosine price in Louisiana includes 1c state tax.

S. O. KENTUCKY

	T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Ashland, Ky.	13	5	18	20	15
Catlettsburg, Ky.	13	5	18	20	15
Lexington, Ky.	14	5	19	20	14.5
Louisville, Ky.	13	5	18	20	13
Covington, Ky.	14	5	19	21	14.5
Clarksdale, Miss.	14	5	19	21	12.5
Gulfport, Miss.††	15.5	5	20.5	22.5	13
Jackson, Miss.	12	5	17	19	13
Natchez, Miss.	14	5	19	21	13
Vicksburg, Miss.	14	5	19	21	13
Birmingham, Ala.‡‡	14	4	18	20	14.5
Mobile, Ala.‡	15	4	19	21	11.5
Montgomery, Ala.*	16	4	20	22	15
Atlanta, Ga.	15	6	21	22	†14.5
Augusta, Ga.	16	6	22	24	†15.5
Macon, Ga.	16	6	22	24	†13
Savannah, Ga.	14	6	20	22	†14
Jacksonville, Fla.	13	6	19	19	14
Miami, Fla.	15	6	21	23	14
Tampa, Fla.	14	6	20	20	13
Pensacola, Fla.**	14	6	20	21	13.5

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

***Local privilege tax of 1 cent on gasoline and ½ cent on kerosine at Montgomery included.**

†Georgia kerosine prices include 1c state tax.

****Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.**

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

‡Mobile gasoline prices include 1c city tax.

‡‡Birmingham gasoline prices include 1c city tax.

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	12.5	2	14.5	16.5	11.5
Newark, N. J.	11.5	2	13.5	15.5	10.5
Annapolis	12	4	16	18	11
Baltimore, Md.	11.2	4	15.2	17.2	10.2
Cumberland, Md.	13	4	17	19	12
Washington, D. C.	11.7	2	13.7	15.7	10.7
Danville, Va.	12.8	5	17.8	19.8	11.8
Norfolk, Va.	11.3	5	16.3	18.3	10.3
Richmond, Va.	11.7	5	16.7	18.7	10.7
Roanoke, Va.	13	5	18	20	12
Petersburg, Va.	12.3	5	17.3	19.3	11.3
Charleston, W. Va.	12.5	4	16.5	18.5	11.5
Keyser, W. Va.	13.1	4	17.1	19.1	12.1
Parkersburg, W. Va.	11.2	4	15.2	17.2	10.2
Wheeling, W. Va.	12.4	4	16.4	18.4	11.4
Raleigh, N. C.	13.2	5	18.2	20.2	12.2
Charlotte, N. C.	13.3	5	18.3	20.3	12.3
Hickory, N. C.	13.6	5	18.6	20.6	12.6
Mt. Airy, N. C.	13.5	5	18.5	20.5	12.5
Salisbury, N. C.	13.5	5	18.5	20.5	12.5
Charleston, S. C.	11.3	6	17.3	19.3	10.3
Columbia, S. C.	13.2	6	19.2	21.2	12.2

Note: 2c per gallon discount off t.w. price of gasoline to dealers thru S. O. New Jersey territory.

Above prices include these inspection fees on both gasoline and kerosine, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosine; Arkansas, 1/20c on both Florida, 1/8c on both; Illinois, 3/100c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/100c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both South Dakota, 1/10c on both, Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosine; Wisconsin, 3/50c on both.

Kerosine inspection fees only, per gallon; Iowa 7/100c; Michigan 1/5c to 4/5c per gal.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

Prices in Effect Oct. 6, 1930

S. O. NEBRASKA

	Gasoline Total T.W.	Tax	T.W.	S.S.	Oil T.W.
Omaha, Neb.	13.25	4	17.25	18.25	11.25
McCook	14.75	4	18.75	20.75	12.75
Norfolk	13.25	4	17.25	17.25	11.75
North Platte	14.75	4	18.75	20.75	12.50
Scottsbluff	13	4	17	17	12.25

Note: Discounts: 1c per gal. off tank wagon price of gasoline for 1,000 gallon dumps per month to consumers taking tank wagon delivery only.

S. O. INDIANA

Chicago, Ill.	13	3	16	17	11
Decatur, Ill.	13.2	3	16.2	17	11.1
E. St. Louis, Ill.	12.4	3	15.4	16.4	10.2
Joliet, Ill.	13.4	3	16.4	17.4	11.3
Peoria, Ill.	13.2	3	16.2	15	11.1
Quincy, Ill.	13.2	3	16.2	17.2	10.9
Indianapolis, Ind.	13.2	4	17.2	17.9	12.2
Evansville, Ind.	13	4	17	18	12
South Bend, Ind.	13.4	4	17.4	18.4	12.4
Detroit, Mich.	13.8	3	16.8	14.3	12.7
Grand Rapids, Mich.	12.7	3	15.7	16.7	12.6
Saginaw, Mich.	13‡9	3	16.9	16.9	12.8
Green Bay, Wisc.	13.6	2	15.6	16.6	11.4
Madison, Wisc.	13.3	2	15.3	16.3	11.1
Milwaukee, Wisc.	13.1	2	15.1	16	10.9
La Crosse, Wisc.	15.2	2	17.2	18.2	12
Minneapolis, Minn.	14	3	17	18	11.9
Duluth, Minn.	14.5	3	17.5	18.5	11.9
Mankato, Minn.	14.1	3	17.1	18.1	11.7
Des Moines, Ia.	13.5	3	16.5	16.5	11.3
Davenport, Ia.	13.5	3	16.5	17.5	11.3
Sioux City, Ia.	13.1	3	16.1	17.1	10.9
Mason City, Ia.	13.5	3	16.5	17.5	11.3
St. Louis, Mo.	*12.9	2	14.9	15.9	10.3
Kansas City, Mo.	†12.9	2	14.9	15.9	10.6
St. Joseph, Mo.	†13.5	2	15.5	11.9	10.2
Fargo, N. D.	15.9	3	18.9	19.9	13.9
Grand Forks, N. D.	16.2	3	19.2	20.2	14.2
Minot, N. D.	15.9	3	18.9	19.9	13.9
Pierre, S. D.	14	4	18	19	12.4
Huron, S. D.	14.3	4	18.3	17.5	12.7
Wichita, Kans.	11.8	3	14.8	14.8	9.8
Bartlesville, Okla.	11.5	4	15.5	18.5	11.5

S. O. Indiana's quantity contract price schedule thru territory (except in Chicago and Detroit, which see below) on tank truck deliveries of gasoline, figured from the service station price is 3c for 500 gal. or more a month; and 4½c for 75,000 gals. or more a month.

In Chicago and vicinity, these discounts apply: Over 500 gals. per month, 4c per gal. off service station price; over 1,000 gals. per month, 5c per gal. off service station price.

In Detroit, dealers and consumers signing contract for all gasoline for one year, get 4c per gal. off s.s. price. Non-contracted accounts get 3c off s.s. price. Those buying 75,000 gals. or more a month, 4½c per gal. off s.s. price.

*Includes city tax of ½c.
†Includes city tax of 1c.

S. O. OHIO

Ohio statewide	14	4	18	19	15
Preble County	14	4	18	18	15
Butler County	13	4	17	17	15
Summit County	10	4	14	14	15

Note: Discount on gasoline to dealers and commercial consumers generally thru Ohio is 2c per gal. off above t.w. prices. In counties where prices are below statewide schedule, discount is 3c per gal. off t.w. price.

Discount on kerosine to dealers and commercial consumers is 3c per gal. off t.w. price thru Ohio.

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	4	16	19	9
Oklahoma City	11	4	15	18	10
Tulsa, Okla.	12	4	16	20	10
Fort Smith, Ark.†	11.5	†4	15.5	17.5	12
Little Rock, Ark.	11.5	5	16.5	18.5	12
Texarkana, Ark.*	13	4	17	17	12
Dallas, Tex.	10	4	14	17	12
Fort Worth, Tex.	10	4	14	17	11
Houston, Tex.	11	4	15	19	11
San Antonio, Tex.	9	4	13	17	11
El Paso, Tex.	12	4	16	20	13

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

Greater New York City:

	Gasoline Total T.W.	Tax	T.W.	S.S.	Oil T.W.
Boroughs of Manhattan, Bronx, Queens & Kings	12.3	2	14.3	16.3	10
Borough of Richmond	13.7	2	15.7	17.7	11.7
Albany, N. Y.	13.6	2	15.6	17.6	12.6
Buffalo, N. Y.	14.8	2	16.8	18.8	9
Rochester, N. Y.	15	2	17	19	9
Syracuse, N. Y.	15.8	2	17.8	19.8	12.8
Boston, Mass.	12.5	2	14.5	16.5	10
Augusta, Me.	15.8	4	19.8	21.8	12.8
Manchester, N. H.	15.4	4	19.4	21.4	12.4
Burlington, Vt.	16.3	4	20.3	22.3	13.3
New Haven, Conn.	15.6	2	17.6	19.6	12.6
Providence, R. I.	12.7	2	14.7	16.7	10

Note: S. O. New York allows 3c off t.w. price to dealers in New York City, and 2c off t.w. price thru rest of territory.

ATLANTIC REFINING

Pittsburgh, Pa.	15	*	15	20	12
Philadelphia, Pa.	15	*	15	20	12
Allentown, Pa.	15	*	15	20	12
Erie, Pa.	15	*	15	18	12
Scranton, Pa.	15	*	15	20	12
Altoona, Pa.	15	*	15	20	12
Dover, Del.	15	3	18	20	12
Wilmington, Del.	15	3	18	20	12
Boston, Mass.	14.5	2	16.5	18.5	10
Springfield, Mass.	15.5	2	17.5	19.5	10
Worcester, Mass.	15.3	2	17.3	19.3	10
Fall River, Mass.	12.1	2	14.1	15.1	10
Providence, R. I.	11.7	2	13.7	14.7	10
Hartford, Conn.	15.5	2	17.5	19.5	12 5
New Haven, Conn.	15.6	2	17.6	19.6	12.6
Atlantic City, N. J.	12.5	2	14.5	16.5	11.5
Camden, N. J.	11.6	2	13.6	15.6	10.6
Trenton, N. J.	12	2	14	16	11
Annapolis, Md.	12	4	16	18	11
Baltimore, Md.	11.2	4	15.2	17.2	10.2
Hagerstown, Md.	12.7	4	16.7	18.7	11.7
Richmond, Va.	11.7	5	16.7	18.7	10.7
Wilmington, N. C.	13.4	5	18.4	20.4	12.5
Brunswick, Ga.	14	6	20	22	**15
Jacksonville, Fla.	13	6	19	19	14

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers; discount to commercial accounts under contract for one year in accordance with Code of Ethics. Erie has dealer discount of 4c off t.w. price, effective May 28.

*3-cent state tax is collected by retail dealer and paid by him directly to state.
**Georgia kerosine prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Sprits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.7	17
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	**20.7	**22.2	**24
St. Louis	13.9	17.1	18.9
New York		16	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)

New York harbor	11.00
Philadelphia district	11.00
Providence	11.50

Tank Wagon or Steel Barrels

New York City	15–16
Syracuse	17–18
Rochester	18
Buffalo	17–18
Providence	17–18
Boston	19
Bridgeport	16–18
Newark	14 15
Philadelphia	16–17
Baltimore	18

Note: 2c off above t.w. prices to large buyers in some instances.

En-ar-co
MOTOR OIL
White Rose
GASOLINE

YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

The National Refining Co.
Cleveland, Ohio

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	ONTARIO T.W.	Tax	Gasoline Total T.W.	S.S.	Oil T.W.
Toronto	19.5	5	24.5	28	20.5
Ottawa	19.5	5	24.5	28	20.5
North Bay	22.5	5	27.5	33	27
Ft. William	22.5	5	27.5	31	22. 5
Border Cities, including Windsor	18.5	5	23.5	27	19.5
MANITOBA					
Winnipeg	21	5	26	30	21.5
SASKATCHEWAN					
Regina	26	5	31	35	26
ALBERTA					
Edmonton	27.5	5	32.5	36	27.5
Calgary	23.5	5	28.5	32	23.5
BRITISH COLUMBIA					
Vancouver	23	5	28	32	24
QUEBEC					
Montreal	20.5	5	25.5	29	21.5
Quebec City	21.5	5	26.5	30	22.5
Three Rivers	21 5	5	26.5	30	22.5
NEW BRUNSWICK					
St. John	20	5	25	29	22
Moncton	20	5	25	29	22
NOVA SCOTIA					
Halifax	20	5	25	29	22
PRINCE EDWARD ISLAND					
Charlottetown	20	5	25	29	22

Note: In districts surrounding these points 1c additional is added to city price.

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories showing state and municipal taxes:

S. O. NEW JERSEY

Prices in Effect Oct. 6, 1930

	T.W	Tax	Total
Newark, N. J.	17.4	*	17.4
Baltimore, Md.	16 2	4	20.2
Washington, D. C.†	18 0	2	20 0

*New Jersey road tax of 2c does not apply on aviation gasoline, exemption being claimed at time of purchase.

†Price at Washington is on Stanavo Aviation gasoline which sells at a ½c premium over "Standard" aviation gasoline.

(Continued on Page 117)

A big fleet of *modern* cars;
4 large, privately owned shops to keep them in condition;
18 years' specialized experience;
SPECIAL *services to shippers, described on request. Address*

NORTH AMERICAN CAR CORPORATION
327 S. LaSalle St., Chicago, Ill.
Tank Cars for Lease. Domestic and Export Terminals Chicago, Tulsa, New Orleans.

SUPERIOR KEROSENE

A product of careful refining

Clear Sparkling
Water White
Burning Oil

Why not let us ship you a trial order for a car of 45 or 46 gravity SUPERIOR KEROSENE today?

SUPERIOR OIL WORKS
Warren, Pa.

Refiners of Petroleum

REPUTATION GUARANTEE SATISFACTION

On good roads or bad roads, loaded or light, Brown tanks will remain tight. No secret reinforcements nor mysterious highsounding features. Just good honest full weight material correctly built by real tradesmen. The Brown Certified Truck Tank is the result of practical oil men's experience. From the oil man's standpoint, we offer just what you expect—efficient service—oil-tight at all times—and attractive appearance—priced right. Get our figures and compare the facts.

A 1650 gallon with stake barrel carriers and underslung canboxes

BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

Canadian Associate: Canadian Brown Steel Tank Co., Ltd., Brandon, Manitoba

TEAR OUT THIS COUPON AND MAIL IT TODAY

Make of Truck..... **Size Tank Required**.....

Other equipment on which you may send prices.....

Name..... **Address**.....

Crude Oil Prices (in Effect Oct. 6, 1930)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Sept. 18, 1930) 2.55
Penna. Grade Oil in National Transit Lines (Other Pennsylvania) (Effective Aug. 22, 1930) *2.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) (Effective Aug. 22, 1930) 2.25
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Aug. 22, 1930) ... 2.15
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Sept. 13, 1930) .. 1.90
Wayne district crude in Cumberland lines (West Virginia) (Effective July 23, 1930) ... 1.17
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective July 19, 1930) 1.50
Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective July 23, 1930) 1.30
Somerset Oil in Eureka Pipe Lines (Effective July 23, 1930) 1.14
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 29, 1929) ... $0.60
*Oil run prior to July 1, 1929 is $2.25 per bbl.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines (Effective July 25, 1930) $1.35

MICHIGAN

(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, which see below.

(Posted by Pure Oil Co.)

Midland, Midland County (Aug. 21, 1930) ... $1.30

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Wooster	$1.70	Princeton	$1.65
Lima	1.55	Illinois	1.65
Waterloo	1.20	Plymouth	1.23
Indiana	1.32	West Kentucky	1.55

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia $1.95
Oil Springs 2.02

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.
(In Oklahoma and Kansas)

Effective Apr. 10, 1930

Below 25	$0.75	35-35.9	$1.25
25-25.9	0.80	36-36.9	1.295
26-26.9	0.85	37-37.9	1.325
27-27.9	0.90	38-38.9	1.36
28-28.9	0.95	39-39.9	1.395
29-29.9	1.00	40-40.9	1.43
30-30.9	1.05	41-41.9	1.465
31-31.9	1.10	42-42.9	1.50
32-32.9	1.15	43-43.9	1.535
33-33.9	1.185	44 and above	1.57
34-34.9	1.22		

(In North Texas: Ranger, Wichita Falls, Mexia)

Effective Apr. 10, 1930

Below 25	$0.72	30-30.9	$1.02
25-25.9	0.77	31-31.9	1.07
26-26.9	0.82	32-32.9	1.12
27-27.9	0.87	33-33.9	1.17
28-28.9	0.92	34-34.9	1.22
29-29.9	0.97	35-35.9	1.255
36-36.9	$1.29	41-41.9	$1.465
37-37.9	1.325	42-42.9	1.50
38-38.9	1.36	43-43.9	1.535
39-39.9	1.395	44 and above	1.57
40-40.9	1.43		

The Texas Co., same schedule in Oklahoma as Prairie in Oklahoma; and in North Texas, North Central Texas and Central Texas same as Prairie and Humble in North Texas, effective Apr. 10.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

Humble's prices in above fields same as Prairie's prices in North Texas, effective Apr. 10, which see.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Below 26	$0.70	28-28.9	$0.88
26-26.9	0.76	29-29.9	0.95
27-27.9	0.82	30-30.9	1.02

Rest of Magnolia schedule up to 44 and above same as Prairie in Oklahoma and Kansas.

Apr. 10, 1930, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in Winkler, Crane, etc., which see

Corsicana heavy	$0.80
Luling	0.85
Mirando	0.85
Darst Creek, 60° F. gravity	1.15

Carter Oil Co.

(Oklahoma and Kansas)

Apr. 10, 1930, same schedule as Prairie, which see.

PANHANDLE TEXAS

Humble Oil & Refining Co.

Effective Apr. 10, 1930

Hutchinson and Carson Counties:

Below 32	$0.775	38-38.9	$1.065
32-32.9	0.825	39-39.9	1.10
33-33.9	0.875	40-40.9	1.135
34-34.9	0.925	41-41.9	1.17
35-35.9	0.96	42-42.9	1.205
36-36.9	0.995	43-43.9	1.24
37-37.9	1.03	44 and above	1.275

Gray County:

Below 29	$0.755	37-37.9	$1.16
29-29.9	0.805	38-38.9	1.195
30-30.9	0.855	39-39.9	1.23
31-31.9	0.905	40-40.9	1.265
32-32.9	0.955	41-41.9	1.30
33-33.9	1.005	42-42.9	1.335
34-34.9	1.055	43-43.9	1.37
35-35.9	1.09	44 and above	1.405
36-36.9	1.125		

Wheeler County: Posted by Magnolia Pet. Co. Humble withdrew Wheeler county postings Apr. 10.

Below 30	$0.755	37-37.9	$1.11
30-30.9	0.805	38-38.9	1.145
31-31.9	0.855	39-39.9	1.18
32-32.9	0.905	40-40.9	1.215
33-33.9	0.955	41-41.9	1.25
34-34.9	1.005	42-42.9	1.285
35-35.9	1.04	43-43.9	1.32
36-36.9	1.075	44 and above	1.355

Above prices met by The Texas Co. and Magnolia on Apr. 10.

WEST TEXAS AND NEW MEXICO

Humble Oil & Refining Co.

Effective Apr. 10, 1930

Winkler, Crane, Upton, Crockett, Ector, and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.65	31-31.9	$0.86
25-25.9	0.68	32-32.9	0.89
26-26.9	0.71	33-33.9	0.92
27-27.9	0.74	34-34.9	0.95
28-28.9	0.77	35-35.9	0.98
29-29.9	0.80	36 and above	1.01
30-30.9	0.83		

Howard and Glasscock counties:

Effective Apr. 10, 1930

Below 25	$0.65	31-31.9	$0.82
25-25.9	0.68	32-32.9	0.84
26-26.9	0.71	33-33.9	0.86
27-27.9	0.74	34-34.9	0.88
28-28.9	0.76	35-35.9	0.90
29-29.9	0.78	36 and above	0.92
30-30.9	0.80		

Apr. 10, 1930, The Texas Co. posted same prices in Crane, Upton, Winkler and Lea counties as Humble.

SOUTH AND SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective Apr. 10, 1930

Mirando	$0.85
Salt Flat	1.15
Darst Creek	1.15
Pettus, Bee County (Effective Aug. 21)	1.15

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto, and Sabine.

Effective Apr. 11, 1930

Below 28	$0.87	36-36.9	$1.29
28-28.9	0.92	37-37.9	1.325
29-29.9	0.97	38-38.9	1.36
30-30.9	1.02	39-39.9	1.395
31-31.9	1.07	40-40.9	1.43
32-32.9	1.12	41-41.9	1.465
33-33.9	1.17	42-42.9	1.50
34-34.9	1.22	43-43.9	1.535
35-35.9	1.255	44 and above	1.57

Cotton Valley, Sarepta and Carterville below 36 gravity, $0.85. Rest of schedule same as Caddo, Homer, etc.

Smackover, below 24	$0.90
do 24 and above	1.05
Bellevue (Apr. 11, 1930)	1.15
*Urania, La. (Apr. 11, 1930)	0.95
†East El Dorado (Calion) (Apr. 11, 1930)	0.90

*Posted by Louisiana Oil Refining Corp.
†Posted by Magnolia Petroleum Co.

Apr. 10, 1930, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.67; 25-25.9, $0.72; 26-26.9, $0.77; 27-27.9, $0.82.

Apr. 11, Magnolia met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective Apr. 11, 1930

Below 28	$0.76	30-30.9	$0.91
28-28.9	0.81	31-31.9	.0.96
29-29.9	0.86	32 and above	1.01

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective Apr. 10, 1930

Grades A	$1.15	34-34.9	$1.30
Grades B:		35-35.9	1.33
Below 25	1.00	36-36.9	1.36
25-25.9	1.03	37-37.9	1.39
26-26.9	1.06	38-38.9	1.42
27-27.9	1.09	39-39.9	1.44
28-28.9	1.12	40-40.9	1.46
29-29.9	1.15	41-41.9	1.48
30-30.9	1.18	42-42.9	1.50
31-31.9	1.21	43-43.9	1.52
32-32.9	1.24	44 and above	1.54
33-33.9	1.27		
Refugio county		(rest of schedule, same as Grades B, which see above).	
Below 25	$0.85		
25-25.9	1.03		

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Humble, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Specifications for Grade "A" crude: Gravity: 25° and below, at 60° F; Viscosity: not less than 100 seconds at 100° F. Saybolt.
Sulfur: not over .4%.

Grade "B" includes all Coastal crude which does not meet the test for "A" grades.

Gasoline Tax Collections Soar 550% in 12 Years

NEW YORK.—The proposed 1 cent parish tax on gasoline in Ascension parish, La., was defeated by a three-to-one vote in that parish recently. Many parishes in Louisiana levy taxes on gasoline in addition to the 4 cent state tax.

Ten states are now agitating for increases in gasoline taxes. These are New Jersey, where voters will express their opinion in November as to whether they want an increase in the present 2 cent tax to create a $100,000,000 highway bond issue; Mississippi, West Virginia, Wisconsin, South Dakota, Nebraska, Colorado, Minnesota, Louisiana and Washington.

The leaps and bounds by which gasoline taxes have increased since the first state tax was levied in 1919 is told by the American Petroleum Institute in a recent bulletin. It gives these receipts from the gasoline tax for the various years: 1919, $1,022,514; 1922, $12,703,088; 1925, $148,358,087; and 1928, $304,871,766.

The Institute estimates that $550,000,000 will be collected in 1930 from this source.

Where you and industry are identical—

Every successful business is constantly on the lookout to improve its machinery and methods.

You, as an individual, in order to progress must devote a reasonable part of your time to ***improving your mind.***

Good books on various phases of the oil industry will improve your mind, and pay you big dividends.

OIL PRICE HANDBOOKS

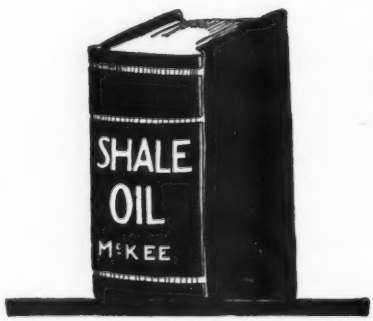
Have you a complete record of REFINERY prices; TANK WAGON markets; EXPORT prices; CRUDE prices—

For quick reference and comparison with today's prices?

The OIL PRICE HANDBOOK is the only complete record of oil markets for a whole year, compiled in one handy volume for quick reference. Cloth bound—marginal index—9″ x 6″—146 pages.

Oil Price Handbook for 1929 .....$7.50
Oil Price Handbook for 1928 .....$5
Oil Price Handbook for 1927 .....$5
Oil Price Handbook for 1926 .....$5
Oil Price Handbook for 1925 }
Oil Price Handbook for 1924 } $6

Send for these OIL PRICE HANDBOOKS *now*, before they are all gone.



If you are interested in the great problem of supplying the world with fuel—get a copy of SHALE OIL.

It is written by men who have devoted years to the investigation of oil shale resources and their uses. R. H. McKee, professor of chemical engineering, Columbia Univ., is chief editor, and other oil shale specialists have contributed chapters as follows:

Origin of Oil Shales—Geology and distribution—Kerogen, the oil yielding material—Fundamental factors in analyzing and evaluating—Refining of shale oils—Nitrogen constituents—Basic factors of industry—Distillation plants—Patents. 325 pages—profusely illustrated, $6.

FRACTIONAL DISTILLATION

THE second edition of "The Elements of Fractional Distillation" by Clark S. Robinson is just out.

A large amount of new data is included in this second edition. For example, the recent work of W. K. Lewis and his associates on the vaporization and rectification of complex hydrocarbon mixtures, natural gasoline and petroleum; McAdams' study of the weathering of natural gasoline; Carey's and Smoley's studies of the efficiencies of rectifying columns, etc.

The last four chapters discuss the distillation and rectification of petroleum and natural gasoline, and the design of apparatus. Rectification of complex hydrocarbon mixtures, of natural gasoline, analysis of the data on weathering of natural gasoline; design of topping units with single and multiple columns; method of Lewis and Wilde for determination of the number of plates in a rectifying column is outlined, with tables and curves to be used.

"The Elements of Fractional Distillation" is well known to technical men in the oil industry, and fills a very definite place in the refinery library. Send for your copy today!

255 pages—price $3

Cut out and mail

NATIONAL PETROLEUM NEWS
Room 707, 1213 West 3rd St., Cleveland, Ohio.

I want the books checked below. Enclosed is check or money order for $.....
(Add 15 cents for foreign postage)

- ☐ Oil Price Handbook
- ☐ *Shale Oil—$6*
- ☐ *The Elements of Fractional Distillation—$3*

NAME .....

Address .....

.....

.....

Crude Oil Prices (in Effect Oct. 6, 1930)

(Prices are per barrel at the well)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective Apr. 10, 1930

Grades A.....$1.15 *Grades B.....$1.00

*Grades B include all heavy crudes which do not meet tests for Grades A or for Grades B light crude. Prices for Grades B light crude are the same as Humble's, which see.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective Apr. 10, 1930)

‡Salt Creek 29-29.9	$1.00
" " 30-30.9	1.05
" " 31-31.9	1.10
" " 32-32.9	1.15
" " 33-33.9	1.185
" " 34-34.9	1.22
" " 35-35.9	1.255
" " 36-36.9	1.29
" " 37 and above	1.325
Elk Basin	1.55
Grass Creek light	$1.55
Big Muddy	1.38
Lance Creek	1.63
Rock Creek	1.35
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.63
‡Cat Creek, Mont.	1.55
Sunburst, Mont.	1.65
‡Hogback, N. Mex.	1.40
Artesia, N. Mex.	1.05

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

Standard Oil Co. of California

(Effective Sept. 15, 1930)

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach Inglewood* Olinda-Brea Canon*	Athens Rosecrans Dominguez	Elwood Terrace	Torrance Richfield	Whittier La Habra	Montebello	Coyote	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills Buena Vista Hills Lost Hills	Coalinga	Wheeler Ridge	‡Kettleman Hills	Orcutt (Santa Maria) (Union Oil Co.)	Santa Paula (Ventura) (Union Oil Co.)	Ventura Avenue (Associated Oil Co.)
14-14.9**	$0.70	....	....	$0.70	$0.70	$0.70	$0.70	....	$0.55	$0.55	$0.55	$0.55	....	$0.55	$0.70	$0.70
15-15.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	....	.55	.70	.70
16-16.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	$1.65	.55	.70	.70
17-17.9	.70	....		.70	.70	.70	.70	....	.55	.55	.55	.55	for	.55	.70	.70
18-18.9	.76	....		.76	.76	.71	.76	....	.55	.62	.62	.62	55°	.65	.75	.76
19-19.9	.82	....		.82	.82	.77	.82	....	.55	.70	.70	.70	gravity	.70	.80	.82
20-20.9	.88	....		.88	.87	.83	.87	....	....	.78	.78	.78	and	.78	.85	.88
21-21.9	.94	....	F.o.b. ships	.94	.93	.90	.93	$0.92	....	.86	.86	.86	over	.90	.90	.91
22-22.9	1.00	....	....	1.00	.98	.97	.98	.95	....	.94	.94	.94	....	.95	.97	.94
23-23.9	1.07	....	....	1.07	....	1.05	1.04	1.01	....	1.02	1.02	1.02	....	1.02	1.05	1.00
24-24.9	1.12	1.12	....	1.12	....	1.08	1.08	1.05	....	1.06	1.04	1.04	....	1.08	1.07	1.05
25-25.9	1.17	1.17	....	1.17	....	1.11	1.12	1.09	....	1.10	1.06	1.06	....	1.11	1.09	1.10
26-26.9	1.22	1.22	....	1.22	....	1.15	1.16	1.13	....	1.14	1.08	1.08	....	1.15	1.12	1.15
27-27.9	1.26	1.27	....	1.26	....	1.19	1.21	1.18	....	1.18	1.11	1.10	....	....	1.16	1.19
28-28.9	1.30	1.32	....	1.30	....	1.23	1.25	1.23	....	1.23	1.15	....	....	....	1.20	1.23
29-29.9	1.34	1.37	....	†1.34	....	1.26	1.29	1.28	....	1.29	1.19	....	....	....	1.24	1.27
30-30.9	1.38	1.42	....	†1.38	....	1.29	1.33	1.33	....	1.35	1.23	....	....	....	1.29	1.31
31-31.9	1.43	1.47	....	....	....	....	....	1.38	....	1.41	1.27	....	....	....	1.34	1.36
32-32.9	1.48	1.52	....	....	....	....	....	1.43	....	1.47	1.31	....	....	....	1.40	1.41
33-33.9	....	1.57	....	....	....	....	....	1.48	....	1.53	1.35	....	....	....	1.46	1.47
34-34.9	....	1.62	1.32	....	....	....	....	1.53	....	††1.59	1.39	....	....	....	....	1.53
35-35.9	....	1.66	1.39	....	....	....	....	1.58	....	††1.65	1.43	....	....	....	....	1.59
36-36.9	....	1.72	1.46	....	....	....	....	1.63	....	....	....	....	....	....	....	....
37-37.9	....	1.78	1.53	....	....	....	....	1.68	....	....	....	....	....	....	....	....
38-38.9	....	1.84	1.60	....	....	....	....	1.73	....	....	....	....	....	....	....	....
39-39.9	....	1.90	1.66	....	....	....	....	1.78	....	....	....	....	....	....	....	....
40-40.9	....	1.96	1.72	....	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	2.02	1.78	....	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	2.08	1.84	....	....	....	....	....	....	....	....	....	....	....	....	....

*Inglewood prices run only to 28.9 gravity; Olinda-Brea Canon to 31.9 gravity.
†Richfield crude only. ††These two grades apply on Lost Hills only.
**Standard does not contract for crude testing below 14 gravity, but pays 45c per barrel when purchased.
‡Union Oil Co.'s prices on Kettleman Hills crude are, effective Sept. 15: 35-39.5, $1.10; 40-44.9, $1.20; 45-49.9, $1.35; 50-54.9, $1.50; and 55 and above $1.65.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Oct. 6	Sept. 29
Soda Ash light 58% bags, cwt.	$1.55	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.90	$1.75
Silicate of Soda 40 deg. tank cars, cwt.	$0.80	$0.80
Silicate of Soda 40 deg. drums cwt.	$1.05	$1.00
Sal Soda wks	$0.90-1.10	$0.90-1.10
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f. o. b. shipping point per ton	$12.50	$11.00
Sulfur, flowers of, cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks, lb.	2.40-2.45	2.40-2.45

Compounders' Supplies

	Oct. 6	Sept. 29
Vegetable Oils		
Linseed carloads, spot, lb.	9.80	10.00
Tanks, spot	9.20	9.40
Soya Bean, Tank, coast, lb.	8.00-9.00	9.60
Oleic Acid		
Distilled, tanks, lb.	8.00	8.00
Distilled, bbls, lb.	8.875	8.875
Saponified, tanks, lb.	8.50	8.50
Saponified, bbls, lb.	9.375	9.375
Lard Oils		
Prime Winter Strained, lb.	13.75	13.75
Extra Winter Strained, lb.	10.75	10.75
Extra, lb.	10.25	10.25
Extra No. 1, lb.	10.00	10.00
No. 1, lb.	9.75	9.75
No. 2, lb.	9.50	9.50
Tallow oil, lb.	9.25	9.25
Neatsfoot Oil		
Pure, bbls, lb.	12.00	12.00
Extra, bbls, lb.	10.25	10.25
No. 1 bbls, lb.	10.00	10.00
Cold Pressed, lb.	15.75	15.75
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	45-47	48-50
Light Pressed, tank cars, N. Y., gal.	39-42	42-44
Yellow bleached, gal.	42-45	51-53
Whale, extra winter bleached, gal.	85	85
Naval Stores		
Steam, distilled turpentine, N. Y., gal.	38	40
Steam distilled turpentine, Savannah, gal.	36.25	37
Gum turpentine, N. Y., gal.	45	45
Gum turpentine, f.o.b. cars Savannah, gal.	38.75	38.75
Wood Rosin, N. Y., gal.	$5.15	$5.16
Wood Rosin F, Savn'h, bbl.	$4.66	$4.40
Gum Rosin B, N. Y. bbl.	$5.45	$5.90
Gum Rosin B, f. o. b. cars Savannah, bbl.	$4.20	$4.65
Rosin oil, pure, gal.	57	57
Rosin oil, compounded, gal.	50	50
Pine Tar		
Kiln burnt, bbl.	$13.00-14.00	$13.00-14.00
Retort, bbl.	$13.50-14.50	$13.50-14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	46-48	46-48

OIL STOCKS AND FINANCES

Cities Service Acquires Control Of Louisiana Oil Refining

CLEVELAND, Oct. 6

CONTROLLING interest in Louisiana Oil Refining Corp. has been bought by Henry L. Doherty & Co. for account of Arkansas Natural Gas Corp., subsidiary of Cities Service Co. Terms of the deal were not announced. It is understood the Louisiana corporation will be operated as a subsidiary of the Arkansas company.

The Louisiana corporation is a complete company but its production has been insufficient to supply the full needs of its refinery and marketing setup. The Arkansas company has crude oil as well as gas production and its oil production is contiguous to pipe lines of the company it now controls.

Marketing facilities of the Louisiana corporation are in East Texas, Louisiana, Arkansas, Mississippi, Alabama, and Tennessee. Its facilities overlap those of Cities Service Oil Co., another Doherty interest, in only five cities in East Texas, it is said.

Besides settled production in Arkansas and Louisiana, the Louisiana company's present production includes exploitation in the Darst Creek field of Guadalupe county, Texas; the Howard-Glasscock area of West Texas, and the Allen field of Seminole and Pontopoc counties, Oklahoma.

Its Howard-Glasscock production amounts to less than 200 barrels a day but the company exploits 4500 barrels a day at Darst Creek under proration. The company was the principal contender for the Darst Creek allowance of 43,000 barrels a day, field total, when other operators were trying to prorate at 20,000 barrels a day. Whether the acquisition by Cities Service will mean the scaling down of allowable production in that Texas field is not known but operators at Houston are encouraged by the deal.

The Louisiana company has two refineries in the Shreveport district. One is a skimming plant at Gas Center rated at 15,000 barrels daily capacity. The other is a cracking plant at Bossier City rated at 14,000 barrels daily capacity. The Tube and Tank cracking process is used.

It has 1,600,000 barrels of steel field storage and 500,000 barrels earthen storage in the Smackover district. It has 255 miles of pipe lines connecting its refineries and production.

After the company had sold its distributing facilities in Ohio and Kentucky in June, 1929, it began a rapid expansion program in the territory into which it could ship profitably from its Shreveport refineries.

At the beginning of 1929 it had 383 service stations and 3948 loaned pumps out. At the beginning of this year the number had increased to 522 stations and 4221 pumps. Last May the number of stations had grown to approximately 800.

The company compounded, or had compounded at Mid-Continent refineries, its own brand of lubricating oils. Acquisition of the company by Cities Service means the early distribution of Cities Service oils in territory where Cities Service had little or no distribution. Whether Cities Service gasoline will be marketed at Louisiana stations has not been announced.

Early this year Louisiana began to market tires and tubes under its own brand name. This expansion of its line of merchandise has indicated to date that it is profitable.

Rio Grande Omits Dividend

LOS ANGELES, Oct. 3.—Rio Grande Oil Co. has omitted its common stock dividend due at this time. It was said in a letter to stockholders that it was necessary to use the company's cash for additional storage, and to store oil and gasoline. A bank loan of $5,000,000 has been arranged for one year. When the securities market improves it is planned to issue debentures for the amount, it was said.

Vacuum, Indian, Simms Shift Officials

CLEVELAND, Oct. 4.—Changes in the executive personnel have been made by Vacuum Oil Co., Indian Refining Co. and Simms Petroleum Co.

Herbert Baker, vice-chairman of Vacuum, has been elected chairman to succeed George P. Whaley who has been inactive because of ill health. Charles E. Arnott, president, has been elected vice-president. Mr. Arnott continues as president. Mr. Whaley retains a place on the board.

Col. J. H. Graham has been elected chairman of the board of Indian and George d'Utassy has been elected president to succeed Col. Graham. Mr. d'Utassy has been vice-president. Dr. Frank Fritts, vice-president, has resigned to engage in educational work.

Thomas W. Streeter, chairman of the board of Simms, and George W. Muhlfeld, Stone & Webster, Inc., have resigned as directors. Vacancies have not been filled.

Barnsdall Earns Dividends

NEW YORK, Oct. 4.—Earnings of Barnsdall Corp. the first eight months of 1930 were sufficient to cover the year's dividend requirements, it was announced here this week. Dividends are $2 a share. Barnsdall's net the first half year was $1.49 a share.

Dissolution Under Way For Paragon Refining

CINCINNATI, Oct. 4.—Formal dissolution of Paragon Refining Co. has been effected. Properties of the company were turned over to the Gulf Oil Corp. Sept. 1.

Holders of Paragon preferred stock will receive the liquidating value of $50 a share. Holders of Class B common stock will receive between $15 and $17 a share.

The only remaining duties of the Paragon officers are to settle claims against the company and collect bills receivables. Liquidating value of the common stock will be determined when this work is completed.

The first liquidating dividend on the stock will be paid about Oct. 15.

Richfield Puts Common On No Par Basis

LOS ANGELES, Oct. 3.—Richfield Oil Corp. has changed its common stock from $25 a share par value to shares without par value. It has listed 2,891,736 shares of the no par stock on the New York Stock Exchange.

Of this number of shares 400,000 are under option to James C. Willson & Co. at $17 a share. The company sold 250,000 shares at this price in July.

The Richfield balance sheet of June 30 shows an expansion of $5,657,853 in current liabilities and a contraction of $1,213,268 in current assets in the first half year. Bank loans increased more than $4,000,000 to $9,134,000.

Independent-Phillips Deal Approved

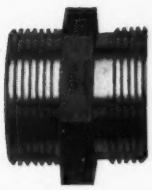
TULSA, Oct. 4.—Stockholders of Independent Oil & Gas Co. have approved sale of the company's assets to Phillips Petroleum Co. Phillips is paying 7.6 shares of its stock for every 10 shares of Independent stock outstanding.

Some ‹OPW› PRODUCTS *shown at the* Tulsa Convention

Cat. No. 74—Wet Hose Nozzle Valve

Cat. No. 80—Air Relief Valve

Cat. No. 65—Double Swivel Female Ell



Cat. No. 71—Reducing Nipple

If you are interested in valves and fittings for service stations—the kind that give continuous satisfactory service and sell at conservative prices—visit lot R at the International Petroleum Exposition.

Here are a few of the thousands we have manufactured for some of the largest buyers of the nation. Examine them for your own satisfaction, or let us send you a copy of our catalog—just published—giving complete description.

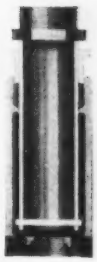
Slip that request in the mail today.

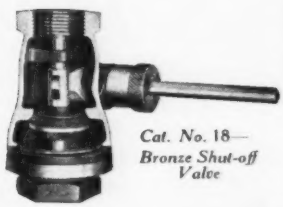
The OHIO PATTERN WORKS & FOUNDRY CO.

2730 Spring Grove Avenue
Cincinnati, Ohio

Cat. No. 70—45-degree Elbow

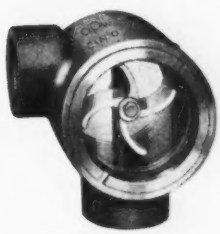
Cat. No. 84—Flush Box Expansion Sleeve





Cat. No. 18—Bronze Shut-off Valve

Cat. No. 25—Bronze Angle Shut-off Valve



Cat. No. 45—Bronze Visi-Flo

A self measuring gear pump with a 200 gallon tank mounted on skids enabling this complete unit to be easily and quickly moved to any desired location.

Tank is equipped with skids—making it easy to draw from one location to another. Can furnish any size tank up to 500 gallons.

The Sistersville Portable

A PORTABLE FILLING STATION FOR FIELD SERVICE

Furnished in any size tank up to 500 gallons.

Here is a new unit particularly well adapted to meet the requirements of General Contractors, Large Operators, Industrial and Agricultural uses, as well as for the individual car owner.

A self measuring gear pump, with 8 feet of ¾" Triplexd hose, regulation nozzle, and 1" suction pipe with foot valve. Comes with 3" nipple—easy to connect.

Tank is of 12 gauge material standard Sistersville Filling Station Tank Construction, mounted on skids.

Also comes in another model complete without skids for permanent location.

Write for details and prices.

SISTERSVILLE TANKS

SISTERSVILLE TANK & BOILER WORKS, SISTERSVILLE, W. VA.

Transactions in Oil Shares on New York Stock Exchange

1929 High	1929 Low	1930 High	1930 Low	Listed Shares	Par Value	Company	Div. Rate	Last Paid	Transactions Week Ending Oct. 4 Sales	First	High	Low	Last	Change
42⅜	17½	42¼	20½	922,075	N.P.	Amerada Corp.	50cQ	July 31, 30	13,800	22	25⅝	21½	24¾	+ 2¾
64¾	12½	37	13	209.180	N.P.	American Republics Corp.	....	.....	1,700	13½	15½	†13	14	— 1
47¼	34½	51	32½	2,240.000	$25	Associated Oil.	50cQ	Sept. 30, 30	10	39½	39½	39½	39½	— 1
77⅞	30	51⅜	24⅝	2,683,868	25	Atlantic Refining Co.	‡25cQ	June 16, 30	47,200	29¼	29½	†24⅝	28½	— ⅞
49⅛	20	34	18⅝	2,257.108	25	Barnsdall Corp. A.	50cQ	Aug. 6, 30	34,200	19½	20⅝	†18⅜	20	+ ⅛
34½	25	35	28	2,060,966	25	California Petroleum Corp.	....	Jan. 1, 29	.....	.....	.....	.....	.....	.....
32¼	12½	20⅝	12¼	1,444.970	N.P.	Colonial Beacon Oil Co.	....	.....	4,800	13½	13½	12½	12¼	— 1¼
37¾	18	30½	13⅝	4,610.258	N.P.	Continental Oil (Delaware)	.....	.....	63,500	15	15¾	†13⅜	14¾	— ¼
94¾	42¼	71¾	36	410.857	$100	General Asphalt Co.	$1Q	Sept. 15, 30	7,600	36⅞	37½	†36	36½	— ½
109	26	116⅛	52¼	250,000	100	Houston Oil.	.....	.....	40,300	57	64¾	54	61¼	+ 4½
39⅜	17¾	32	18⅜	1,379.295	N.P.	Independent Oil & Gas.	37½c	Oct. 2, 30	11,500	19¼	20⅝	†18⅜	20⅛	— ¼
53	13⅛	28⅜	6¾	699,066	10	Indian Refining.	....	Dec. 15, 20	91,100	9	9¾	†6¾	8¾	— ¼
51¼	11½	27¾	8⅛	568.816	10	do certificates.	....	.....	.....	....	....	....	....	.....
38⅜	16½	29½	21¼	3,994.150	N.P.	Lago Oil & Transport.	....	Aug. 2, 27	.....	....	....	....	....	.....
18	7	12	7	1,187.701	N.P.	Louisiana Oil Refining.	.....	.....	9,000	8	8¼	†7	8	0
100¼	80	89⅛	78⅜	40.000	$100	do pfd.	$1.62½Q	Aug. 15, 30	10	78⅜	78⅜	†78⅜	78⅜	— 9⅛
18½	5⅛	10⅜	3⅛	330.000	N.P.	Maracaibo Oil Exploration.	.....	.....	2,100	4⅛	4⅛	†3⅞	3⅞	— ⅛
295	176	182	150	459.428	$100	Mexican Petroleum.	$3Q	July 31, 30	140	....	171	†150	171	+12
105	102	..	..	120.000	100	do pfd.	$2Q	July 31, 30	.....	.....	.....	.....	.....	.....
69⅜	9¼	37	16⅛	1,244,383	N.P.	Mexican Seaboard Oil.	....	Oct. 15, 24	75,500	17¼	19	16⅛	18⅜	+ ⅛
39⅛	22⅛	33	19⅝	1,899,138	N.P.	Mid-Continent Petroleum.	50cQ	Aug. 1, 30	19,300	20⅛	21¾	†19⅜	20¾	0
3⅝	¾	2⅛	¾	908.171	N.P.	Middle States Oil ctfs.	.....	.....	.....	.....	.....	.....	.....	.....
..	..	32	22⅛	6.708.086	N.P.	Ohio Oil Co.	50cQ	Sept. 15, 30	67,900	25	26¼	†22½	24⅞	— ½
69	40¼	64⅛	51⅜	1,000.000	$50	Pan American Petrol. & Trans.	....	Oct. 20, 27	700	53	53	†51⅜	52½	+ ½
69¼	40½	67½	50½	2,422.221	50	do B.	....	Oct. 20, 27	6,400	52⅞	53½	50½	52	— ½
15¼	3	12¾	4⅛	199.370	N.P.	Panhandle Prod. & Refg.	....	.....	3,100	4	4¾	4⅜	4½	+ ¾
76	47½	80	47½	25.666	$100	do pfd.	.....	July 2. 23	.....	.....	.....	.....	.....	.....
..	..	27½	14½	2,937,900	N.P.	Petroleum Corp. of America.	37½cQ	Sept. 30, 30	24,400	14½	16	14½	15⅛	+ ½
47	24¼	44¾	24⅝	2,670.089	N.P.	Phillips Petroleum Co.	50cQ	Oct. 2, 30	50,100	26⅝	27⅛	†24⅝	26½	0
3⅜	1	2½	¾	1,184.917	$25	Pierce Oil Corp.	....	.....	5,200	1	1	†¾	1	0
51½	20	52	19¾	150.000	100	do pfd.	....	Feb. 1, 22	1,900	20⅜	21	†19¼	19½	— ⅝
5⅛	½	7⅛	2¼	2,500.000	N.P.	Pierce Petroleum Corp.	.....	.....	10,900	4	4⅜	3¾	3¾	0
65⅝	40½	54	27	2,435,670	$25	Prairie Oil & Gas Co.	50cQ	Sept. 30, 30	8,700	29	29½	†27	27	— 2
65	45	60	36	4,050.000	25	Prairie Pipe Line Co.	‡75cQ	Sept. 30, 30	15,600	38	39½	36	36	— 2
25⅞	4	31	5	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 30	3,800	5⅛	5½	†5	5	— ⅛
46⅝	25⅛	38	26	56.907	50	do pfd.	.....	May 4, 25	160	26⅝	28	†26	26	— 2
30¾	20	27¼	16¼	3,038,370	25	Pure Oil Co.	37½cQ	Sept. 1, 30	38,000	16⅝	18⅝	†16¼	18¼	+ 1⅝
116	108	114¼	109½	130,000	100	do 8% pfd.	$2Q	Oct. 1, 30	190	109½	110¾	109½	110¾	+ 1⅛
49⅜	22⅝	28¼	7½	2,891.735	25	Richfield Oil (California).	50cQ	Sept. 1, 30	81,999	11⅛	11½	†7½	8½	— 3
42½	15	25⅝	8⅝	1,235.270	N.P.	Rio Grande Oil Co.	50cQ	July 25, 30	28,800	10⅝	10⅞	†8⅜	10¼	— ¾
64	43⅛	56½	43⅞	951.310	$13.40	Royal Dutch (N. Y. shares).	$1.875	Aug. 13, 30	17,500	45¼	46⅝	†43⅞	45⅞	+ ⅛
55¾	43⅜	48⅜	37½	77.492	L2	Shell Trans. & Trading.	$1.453	July 28, 30	50	37½	38¾	†37½	37½	— 2⅛
31¾	19	25½	11	13,069,076	N.P.	Shell Union Oil Corp.	35cQ	June 30, 30	23,800	12	12⅜	†11	12	+ ¼
..	..	106¼	86	400,000	100	do pfd.	$1.37½Q	Oct. 1, 30	1,200	86½	88	†86	87	+ ½
40⅛	15	37	14	869.255	10	Simms Petroleum Co.	40cQ	June 14, 30	10,300	16⅛	16⅛	†14	15	— 1⅛
45	21	32	16	5,455.665	N.P.	Sinclair Consolidated Oil Corp.	50cQ	July 15, 30	114,300	17⅜	18⅛	†16	17⅛	— ⅜
111	103	112¼	108	154.685	100	do pfd.	$2Q	Aug. 15, 30	600	110½	110½	110¼	110¼	— ¼
46½	42	42	22½	1,097.650	$25	Skelly Oil Co.	50cQ	Sept. 15, 30	13,300	25½	25½	†22½	23⅝	— 2⅜
..	..	99¾	83	120,000	100	do pfd.	$1.50Q	Aug. 1, 30	3,100	84¼	84¼	83	83	— 3
..	..	106	98	750,000	100	S. O. Export Corp. pfd.	$2.50S.A.	June 30, 30	300	105½	106¼	105½	106¼	+ ¾
81⅞	51½	75	54¼	13,016.434	N.P.	S. O. California.	62½cQ	Sept. 15, 30	35,200	56	57¾	†54¼	56¼	— 1½
..	..	49	22	320,000	$25	S. O. Kansas.	50cQ	Sept. 15, 30	3,500	24¾	25	†22	24½	— ⅞
83	48	84⅞	57⅛	25,443.643	25	S. O. New Jersey.	‡25cQ	Sept. 15, 30	305,700	60⅞	62¾	†57⅛	60¾	0
48⅛	31¾	40⅝	26¾	17,809,530	25	S. O. New York.	40cQ	Sept. 15, 30	89,400	28	29¾	†26¾	29⅝	+ 1⅝
86¾	55	70	50	1,416.911	N.P.	Sun Oil Co.	25cQ	Sept. 15, 30	1,700	57⅛	57⅛	54½	56	— ½
105½	100	107½	102½	100.000	$100	do pfd.	$1.50Q	Sept. 1, 30	530	106¾	108½	106¼	106⅝	— ½
24	5¼	9⅜	1½	1,026.979	N.P.	Superior Oil Corp.	.....	.....	6,400	1⅜	2	†1½	1⅞	— ⅛
71⅞	50	60½	43⅝	9,850.724	$25	The Texas Corp.	75cQ	Oct. 1, 30	123,400	47½	47½	†43⅜	45⅞	— 1½
23⅞	9⅛	14½	6⅜	929.947	10	Texas Pacific Coal & Oil.	a2½%	Dec. 31, 29	13,000	7½	7⅞	†6⅛	7¼	— ⅛
23½	10	17¾	10½	5,881.980	N.P.	Tide Water Associated Oil.	30cS.A.	Aug. 15, 30	60,400	11⅛	11⅜	†10⅛	10⅞	— ⅛
90⅞	74⅛	89¾	78	732,550	$100	do pfd.	$1.50Q	Oct. 1, 30	400	79	79	78	78⅛	— ⅞
40	14	31	19½	2,191.820	N.P.	Tide Water Oil Co.	20cQ	Sept. 30, 30	.....	.....	.....	.....	.....	.....
97½	85⅛	94⅞	83	199.443	$100	do pfd.	$1.25Q	Aug. 15, 30	500	87	87	85¼	85¼	— 1¾
..	..	24	12¼	3,339.150	N.P.	Transcontinental Oil.	30c	May 1, 30	.....	.....	.....	.....	.....	.....
57	42¾	50	33¾	2,201.008	$25	Union Oil Co. (California).	‡50cQ	Aug. 9, 30	9,000	35¾	36	†33¾	35⅞	+ 1⅛
..	..	38½	25½	1,254.048	N.P.	Union Tank Car Co.	40cQ	June 2, 30	400	25¾	25¾	25¾	25¾	+ ⅛
42⅞	15	27	8¾	777.603	N.P.	Warner Quinlan Co.	25cQ	July 3, 30	16,500	9	9⅛	†8⅜	8½	— ¾
38	25	29½	26	490,000	N.P.	White Eagle Oil & Refg.	50cQ	Apr 20, 30	.....	.....	.....	.....	.....	.....
29¾	12⅞	21	11	428.967	N.P.	Wilcox Oil & Gas Co.	....	May 10, 28	2,200	11½	11½	†11	11¼	— 1

*New high †New low ‡Also extra s-Stock

Total sales 1,622,289

Aviation Gasoline Prices

(Continued from Page 109)

S. O. OHIO

	Gasoline Total T.W. Tax	Gasoline T.W.	Gasoline S.S.	Oil T.W.
Thru Ohio	16	4		20

Discounts given by S. O. Ohio: For airport delivery only: 2,000 gals. or over per month, 1c per gal.; 6,000 gals. or over per month, 2c; 12,000 gals. and over per month, 3c; 24,000 gals. and over per month, 4c.

S. O. INDIANA

Chicago	17	3	20
Indianapolis, Ind.	17.2	4	21.2
Detroit, Mich.	17.8	3	20.8
Milwaukee, Wis.	17.1	2	19.1
Minneapolis, Minn.	18.2	3	21.2
St. Louis, Mo	16.4	2½	18.9
Kansas City, Mo.	16.9	3	19.9
Fargo, N. D.	19.9	3	22.9
Huron, S. D.	18.3	4	22.3
Wichita, Kan.	15.8	3	18.8

In S. O. Indiana territory, buyer pays state and city taxes on aviation gasoline, and if he can get a refund from the state, he does so. St. Louis tax of 2½c includes ½c city tax and Kansas City tax includes 1c city tax.

S. O. LOUISIANA

	T.W. Tax	T.W. S.S.	T.W.
New Orleans, La.	18	5	23
Nashville, Tenn.	20	5	25
Memphis, Tenn.	19	5	24

2c per gal. discount off above t.w. prices to dealers and commercial consumers.

S. O. NEBRASKA

Omaha	16.25	4	20.25

4c per gal. refund to resellers

CONTINENTAL OIL CO.

*Denver, Col.	15	4	19
Cheyenne, Wyo.	17	4	21
Helena, Mont.	24.5	5	29.5
Salt Lake City, Utah	19 5	3.5	23
†Albuquerque, N. M.	15	5	20
Boise, Ida	21.5	5	26.5

*1c per gal. discount to dealers at Denver. †2c per gal. discount to dealers at Albuquerque

S. O. CALIFORNIA

Phoenix, Ariz.	17	4	21
Los Angeles, Cal.	19.5	3	22.5
San Francisco, Cal.	20	3	23
Reno, Nev.	24	4	28
Portland, Ore.	19 5	4	23.5
Seattle, Wash.	19.5	3	22.5
Spokane, Wash.	23.5	3	26.5

4c per gal. discount off t.w. price of gasoline to customers taking tank truck delivery, through S. O California territory, except 1c discount at Phoenix.

Pittsburgh Curb Market

Transactions Week Ended Oct. 3, 1930

	Sales	High	Low	Last	Change
Arkansas Gas A.	550	8¼	7½	8¼	— ¼
Okla. Gas 6s.	$1,000	93	93	93	....

Pittsburgh Stock Exchange

Transactions Week Ended Oct. 3, 1930

	Sales	High	Low	Last	Change
Ark. Nat. Gas.	1,570	10¼	8	8½	— ½
do pfd.	3,160	8	7¾	8	— ¼
Devonian Oil.	1,115	8½	7¾	8	— ¼
Leonard Oil†	13,200	1½	1	1	— ¼
Lone Star Gas.	43,940	39¾	30	33½	— 2¼
do pfd.	880	106½	104	....	— 2½
Plymouth Oil.	3,180	25½	23	24	0
Petroleum Explo.†	400	27	25	25	....
Shamrock O. & G.	10,950	19½	11¾	13	— 2½
Waverly Oil A.	400	21½	18	18	— 1½
Wiser Oil.	120	15¾	15½	15½	— ½
Phoenix Oil.	10,800	c.50	.30	.30	— c.05

†New Low.

Kentucky Jobbers To Hear About Trucks

LOUISVILLE—Among the speakers at the Oct. 14 meeting of the Kentucky Petroleum Marketers Association will be Henry C. Kelting, secretary of the Kentucky motor truck club, who will talk on truck problems.

Senator Glenn, of the State Tax Commission will discuss the application of state tax laws. Mayor Harrison of Louisville will be a luncheon guest.

Delegates to the convention are asked to reach Louisville early to attend the open meeting of the Kentucky sub-committee on the code of ethics, according to "The Kentucky Petroleum Marketer," bulletin of the association.

N. P. N. Ownership Statement

Statement of the ownership, management circulation, etc., required by the Act of Congress of August 24, 1912, of National Petroleum News, published weekly at Cleveland, Ohio, for October 1, 1930, State of Ohio, County of Cuyahoga.

Before me, a notary public in and for the State and County aforesaid, personally appeared A. W. Brobst, who, having been duly sworn according to law, deposes and says that he is the secretary of The National Petroleum Publishing Company and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The National Petroleum Publishing Company, Cleveland, Ohio; editor, Warren C. Platt, Cleveland, Ohio; managing editor, V. B. Guthrie, Cleveland, Ohio; and business managers are: None.

2. That the owners are: The National Petroleum Publishing Co., Cleveland, Ohio; Warren C. Platt, Cleveland, Ohio; Bess H. Platt, Cleveland, Ohio; V. B. Guthrie, Cleveland, Ohio; A. W. Brobst, Cleveland, Ohio; W. H. Little, Tulsa, Okla.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, other securities are None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holders appears upon the books of the company as trustees or in any other fiduciary relation, the names of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiants' full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

(Signed) A. W. BROBST, Secretary.

Sworn to and subscribed before me this 25th day of September, 1930.

(Signed) H. L. RICHEY, Notary Public.

(My commission expires 5-7-33.)

THE OIL INDUSTRY EXCHANGE

Positions Wanted

SALESMAN, 8 years lubrication and mechanical experience, desires new connection, preferably in Dakotas. Not afraid of work. Address Box 584.

CALIFORNIA OIL MARKETERS—Are you looking for some one who knows oil marketing from A to Z? I can positively increase your lubricating oil sales to a large volume. Young man with dynamic personality and very aggressive, having 15 years oil marketing experience, also blending and compounding, open for proposition. Executive ability. Excellent references. Address Box 585

GRADUATE CHEMIST. 11 years experience in development, manufacture and application of industrial oils and greases. Age 36. Now employed. Address Box 593.

THOROUGHLY EXPERIENCED IN OIL ACCOUNTING; preparing financial statements; refinery or auditing. Good record. Best of references. Age 32. Address L. M. Brown, 1520 Elm St., Little Rock, Ark.

LUBRICATION SALES ENGINEER
OR
DIVISION MANAGER

15 years experience in application petroleum products to industrial, automotive, aviation and all types machinery. Member A. S. M. E.—S. A. E. and A. S. T. M. Age 36, substantial references.

Address—Lubrication Engineer,
care National Petroleum News,
904 World Bldg.,
Tulsa, Okla.

Situations Open

WELL EXPERIENCED INDUSTRIAL NAPHTHA SALESMAN wanted to cover middlewest territory Indiana to Rocky Mountains. Want one man who is acquainted with this trade and also well versed in industrial cleaning naphtha. In replying state experience, giving references and salary expected. Address Box 592.

GRADUATE CHEMICAL ENGINEER wanted as superintendent for 5,000 barrel refinery in Texas, experienced in construction and operation of distillation, cracking and treating equipment of high sulphur, West Texas crudes and distillates. Must be familiar with corrosion problem and be able to produce specification finished products. State training, experience and connections in detail; also salary required. Address "Refiner," care National Petroleum News, 904 World Bldg., Tulsa, Okla.

WANTED SALESMEN calling on the oil jobbing trade to take orders for our BLACK BABY metallic gear lubricant, the new lead base automobile gear lubricant. F. E. Martin & Company, Lake Bluff, Ill.

ASPHALT CHEMIST

Large petroleum company desires services of graduate chemist who has had at least three years experience in laboratory (preferably oil refinery) asphalt work. In reply please give information concerning your personal history and details concerning your education and experience; send kodak picture of yourself; state salary expected and date available. Location—south.

Address Box 591

For Sale

BULK PLANT for sale or lease. Gasoline and oil storage; capacity over 500,000 gallons; 8 large offices, garages and warehouse; steam heated; water frontage and 3 railroad sidings; downtown location, Cleveland, Ohio. Address Box 590.

JOBBING BUSINESS

An oil company, located in West Virginia, doing a good wholesale business, is for sale. This company enjoys a splendid reputation in its territory and is recognized as a leader in its line. The total gasoline, kerosine and motor oil gallonage for 1929 was 800,000 gallons and the sales for 1930 will show an increase over 1929.

No real estate is included in this deal—the price is $40,000 and convenient terms can be arranged with responsible people.

Address Box 588

Business Opportunity

MAKE THIS OFFICE
TULSA HEADQUARTERS

Will buy petroleum products for your account
Small commission.

Wire or Write for Details

DALE W. MOORE

405 Philtower Bldg., Tulsa, Okla.
Telephones: 3-4177 and 3-4178.
L. D. 136

Patent Attorney

ROYAL E. BURNHAM
Attorney-At-Law

Patent and Trade-Mark Practice
Exclusively

Continental Trust Building
Washington, D. C.

Miscellaneous

WHAT IT COSTS

"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities."

"Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00.

"Position Wanted"—5 cents a word. Minimum charge $1.00.

Advertisements set in special type or with border—$4.00 per column inch.

Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

Standard Oil Stocks on New York Curb

1929 High	1929 Low	1930 High	1930 Low	Outstanding Shares	Par Value	Companies	Div. Rate	Last Paid	Transactions Week Ended Oct. 4 Sales	First	High	Low	Last	Change
18¾	13½	18½	12¼	.....	£1	Anglo-Amer. Oil voting stk. ctfs..	36c	June 5, 29	.....	....	....	....	....	.....
17⅛	11	19	12	.....	£1	do non-voting stk. ctfs.....	36c	June 5, 12	.....	....	....	....	....	.....
2½	¾	1	⅜	500,000	N.P.	Atlantic Lobos Oil.....	....	.....	.....	....	....	....	....	.....
4⅛	1	1½	1	200,000	$50	do pfd.....	....	.....	.....	....	....	....	....	.....
46½	25	25	14	40,000	25	Borne Scrymser Co.....	$1S.A.	Apr. 15, 30	.....	....	....	....	....	.....
74¼	55	69	53	200,000	50	Buckeye Pipe Line Co.....	$1Q	Sept. 15, 30	200	53⅛	53⅞	†53	53⅞	— 1
210	130	184⅞	129⅞	120,000	25	Chesebrough Mfg. Co.....	‡$1Q	Sept. 30, 30	300	131	131	†129⅞	129⅞	—15⅛
11¾	5⅝	7⅝	4⅜	.....	N.P.	Creole Petroleum Co.....	....	.....	29,600	5⅛	5⅛	†4¾	4⅞	— ⅛
75¾	40	65¾	30½	30,000	$50	Cumberland Pipe Line Co.....	$1Q	June 16, 30	100	33	33	33	33	+ 1
70½	42	54¾	39	50,000	100	Eureka Pipe Line Co.....	$1Q	Aug. 1, 30	.....	....	....	....	....	.....
...	...	6¾	2½	280,000	N.P	Galena Oil Corp. w.i.....	....	.....	400	4	4⅛	4	4⅛	— ⅛
...	...	37¼	28	.....	N.P.	General Petroleum Corp. w.i.....	....	.....	1,800	28¼	28¼	†28	28	— 1⅛
128	74⅛	119	75¾	2,974,645	$25	Humble Oil & Refg. Co.....	50cQ	Oct. 1, 30	19,400	78⅞	79⅛	†75¾	78¾	— ⅛
41	22	30	18	26,490,741	N.P.	Imperial Oil, Ltd.....	12½cQ	June 2, 30	14,900	19¾	20¼	†18	19⅞	+ ⅛
42⅛	26	41	30	300,000	$10	Indiana Pipe Line Co.....	‡50cQ	Aug. 15, 30	400	30¾	30¾	†30	30	— 1
29⅜	15	24	16⅜	14,247,880	N.P.	International Petroleum Co.....	25c	June 16, 30	22,900	17⅛	17¼	†16⅜	16¾	— ⅛
25⅞	10½	22⅜	15⅛	509,000	$12½	National Transit Co.....	25cQ	June 16, 30	800	15¾	15¾	15½	15½	— ⅛
17¾	10	21	10⅛	100,000	10	New York Transit Co.....	40cQ	July 15, 30	100	12⅞	12⅞	12⅞	12⅞	+ ⅛
63	41	54	30½	40,000	50	Northern Pipe Line Co.....	$2S.A.	July 1, 30	200	33	33	†30¼	30½	— 4½
105⅛	103¾	108	103	600,000	100	Ohio Oil pfd.....	$1.50Q	June 14, 30	200	105½	105½	105¼	105½	— ⅛
44½	18⅝	32	17	400,000	25	Penn Mex. Fuel Co.....	$1	May 20, 30	100	21	21	20⅛	20⅛	— 1⅞
50	29	33	10⅜	160,000	25	Solar Refining Co.....	$1.25S.A.	Dec. 20, 29	100	10⅞	10⅞	10⅞	10⅞	— ⅛
23½	13	20⅛	10	100,000	10	Southern Pipe Line Co.....	$5	Sept. 2, 30	200	10	11⅞	†10	11⅞	— 1⅛
60¼	35⅛	45⅞	25	1,200,000	25	South Penn Oil Co.....	50cQ	Sept. 30, 30	5,300	33⅛	34	†25	34	+ 1
70	45	64	44	35,000	50	Southwest Pa. Pipe Lines.....	$1Q	Oct. 1, 30	.....	....	....	....	....	.....
63	45	59⅞	43⅝	16,850,587	25	S. O. Indiana.....	62½cQ	June 16, 30	48,300	45¾	46	†43⅜	45⅜	— ⅛
46⅞	29	40½	26⅛	2,577,124	10	S. O. Kentucky.....	40cQ	June 30, 30	9,600	27½	28⅜	†26⅜	28¼	+ ⅛
50¼	40	48⅞	44⅛	188,159	25	S. O. Nebraska.....	‡62½cQ	June 20, 30	100	46⅛	46⅛	46⅜	46⅛	— ⅛
129	60	108½	64½	560,000	25	S. O. Ohio.....	62½cQ	Oct. 1, 30	3,400	66	66	†64½	64¾	— 1¾
124½	113½	122	115¼	70,000	100	do pfd.....	$1.75Q	Sept. 2, 30	190	118½	118½	116¼	116¾	— 2¼
18	5⅛	10	5	34,158	25	Swan Finch Oil Corp.....	....	Jan. 15, 29	200	5	5	5	5	— 2
133¾	75⅛	97⅞	66⅛	5,139,887	25	Vacuum Oil Co.....	$1Q	June 20, 30	20,100	70½	73	†66⅛	72¼	+ 1½

*New high †New low ‡Also extra

Independent Oils on New York Curb

1929 High	1929 Low	1930 High	1930 Low	Par Value	Companies	Transactions Week Ended Oct. 4 Sales	First	High	Low	Last	Change
.72	⅛	⅜	1/16	$1	Amer. Contr. Oilfields	.....	....	....	....	....	.....
8⅝	1⅛	4½	1½	5	Amer. Maracaibo.....	2,900	1½	1¾	1½	1½	0
4¾	1	1⅜	1⅛	10	Argo Oil.....	.....	....	....	....	....	.....
26	3⅜	16⅜	7⅝	N.P.	Arkansas Nat. Gas...	3,000	8⅞	8⅞	†7⅜	8⅞	0
24¾	6½	16⅜	7¼	N.P.	do Class A.....	18,400	8¼	8⅞	†7¼	8⅞	+ ⅝
9	4	8¼	7⅜	10	do pfd.....	100	7⅞	7⅞	7⅞	7⅞	0
70	50	28½	17	N.P.	British American Oil..	.....	....	....	....	....	.....
4⅞	⅜	2¾	¾	¼	Carib Syndicate.....	600	1⅛	1⅛	1⅛	1⅛	0
68½	20	44¼	24¼	N.P.	Cities Service.....	111,100	26¾	27⅛	25⅛	26⅞	+ ⅛
99¼	84	93⅞	52	100	do pfd.....	700	91⅜	91⅜	91¼	91¼	— ⅜
9¼	8	9	7⅝	10	do pref. B.....	100	8¼	8¼	8¼	8¼	0
96	81	89⅞	82	100	do pref. BB.....	.....	....	....	....	....	.....
1½	¼	1/16	¼	1	Colombia Syndicate..	8,000	¼	¼	⅛	¼	+ 1/16
15	3⅜	8¼	3⅛	N.P.	Colon Oil Corp.....	700	3⅛	3¼	†3⅛	3⅛	0
...	...	21	5¾	N.P.	Columbia Oil & Gas..	7,200	8⅞	9⅜	7¾	8⅞	0
11⅜	2½	5⅞	3¼	10	Consolidated Royalty	600	3½	3½	†3¼	3½	0
135	42	74¾	8	N.P.	Cosden Oil Co.....	57,100	13¼	13½	†8	9⅜	— 4
87	55	70	15½	100	do pfd.....	200	15½	15½	†15½	15½	—36½
2½	¼	1	¼	N.P.	Crown Central Pet...	500	½	½	¼	¼	— ¼
11¾	4	...	...	N.P.	Crystal Oil.....	.....	....	....	....	....	.....
51⅛	51⅛	...	...	100	do pfd.....	.....	....	....	....	....	.....
26	6½	13½	6½	N.P.	Darby Petroleum.....	2,500	8⅛	8¼	†6⅜	7½	— ⅝
...	...	21¾	21½	N.P.	do new.....	.....	....	....	....	....	.....
11	2	11	4½	N.P.	Derby Oil & Refg.....	4,600	5⅞	5⅞	4½	5¾	— ⅛
44	17	60	30	N.P.	do pfd.....	.....	....	....	....	....	.....
...	...	12	12	10	Devonian Oil.....	.....	....	....	....	....	.....
209	115	166⅞	98	$25	Gulf Oil Corp.....	18,700	106	106	†98	99	— 8
7½	1⅛	4	2¼	N.P.	Homaokla Oil.....	.....	....	....	....	....	.....
...	...	47½	26⅝	N.P.	Indian Territory A...	4,900	27⅛	27⅞	26¾	26¾	— 1⅜
...	...	53½	26⅞	N.P.	do B.....	4,800	27⅛	27⅛	26⅞	26⅞	— 1⅜
2⅞	⅜	1⅜	½	10	Intercontinental Pet..	6,900	½	⅝	½	½	0
3⅜	1¼	3	1¼	N.P.	Kirby Petroleum.....	100	1⅜	1⅝	1⅜	1⅝	+ ⅜
6⅛	1	4¾	1	N.P.	Leonard Oil & Dev...	8,900	1⅛	1¼	1	1⅛	0
38⅞	18	29	10	N.P.	Lion Oil Refg.....	14,400	13⅛	14¼	†10	13⅛	— 2½
67⅞	28	55⅞	30⅛	N.P.	Lone Star Gas.....	14,600	35⅛	35½	†30⅛	34	— 1
...	...	31	17	$25	MacMillan Petrol....	.....	....	....	....	....	.....
2⅞	¼	½	⅛	1	Magdalena Synd.....	800	1/16	1/16	⅛	⅛	0
38½	14	16	6	N.P.	Margay Oil.....	300	6	6	†6	6	— 6¼
6⅜	2¼	7½	2	N.P.	Mexico Ohio Oil.....	1,400	2½	2½	2½	2½	0
...	...	11⅞	4½	N.P.	Middle States A v.t.c.	6,300	5⅛	5⅜	5⅜	5⅜	+ ¼
...	...	6	2¼	N.P.	do Class B v.t.c...	1,800	2⅛	2⅛	2⅛	2⅛	— ¼
42	8	36¼	13⅝	5	Missouri-Kansas P.L.	42,800	14⅛	16½	†13⅜	14½	+ ⅜
1½	¼	⅝	⅜	1	Mountain & Gulf Oil..	2,800	1/16	½	1/16	½	+ 1/16
22⅞	7	12⅛	8	10	Mountain Producers..	6,800	8⅛	8¾	†7	7⅛	— 1⅜
43⅞	24	41⅜	25⅛	N.P.	Nat. Fuel Gas.....	2,700	28⅛	28⅛	27	27⅛	+ ⅛
5	2¼	3½	2¼	$5	New Bradford Oil...	200	2½	2½	2¼	2⅜	— ⅛
4¾	3⅛	3⅛	2⅜	10	New England Fuel...	500	2½	2½	2½	2½	— ¼
24½	11⅜	16⅞	6½	25	N. Y. Pet. Royalty...	300	7½	8⅝	†6½	8⅜	+ ¾
18½	6⅛	11¼	6	N.P.	North Central Texas	.....	....	....	....	....	.....
19¼	8⅛	11⅜	6⅞	N.P.	Oilstocks Ltd. A.....	400	6⅞	7	†6⅞	7	— ⅛
18¾	8½	11½	8½	N.P.	do B.....	100	8½	8½	8½	8½	— ½
26⅝	12⅛	19½	12½	N.P.	Pacific Western Oil...	1,900	14⅞	14⅞	13¼	13½	+ 1½
3½	½	2½	¼	N.P.	Pandem Oil.....	1,900	⅜	½	1/16	⅜	— 1/16
10½	2¼	4⅜	1¾	N.P.	Pantepec Oil.....	800	2⅜	2⅜	1¾	2⅛	+ ⅛
25½	13⅛	15	13⅛	$25	Paragon Refg. B. ctfs.	.....	....	....	....	....	.....
28	17	29	19⅛	N.P.	Petroleum Corp.....	.....	....	....	....	....	.....
...	...	5⅞	2	....	do warrants.....	900	2	2⅝	†2	2⅝	+ ⅝
37	22	27½	20¾	N.P.	Plymouth Oil.....	2,400	24	24½	23¼	24⅜	— ⅝
16	9	10½	8	$5	Red Bank Oil.....	.....	....	....	....	....	.....
8½	1⅛	5⅜	2⅛	N.P.	Reiter-Foster Oil.....	1,400	2⅜	2⅜	2⅛	2⅜	+ ⅛
25¼	19	23½	9¾	25	Richfield Oil pfd....	900	10¾	13	†9¾	12½	— 2⅜
29	13	25	7	N.P.	Root Refining pr. pfd.	100	7	7	7	7	0
11	3	8⅝	2½	N.P.	Ryan Consolidated...	100	3	3	2⅝	2⅝	— ⅛
5⅞	1⅞	2½	1⅜	10	Salt Creek Consol....	.....	....	....	....	....	.....
25⅞	9	15¼	8	10	Salt Creek Producers.	2,500	9½	10	8	9½	0
33⅛	10	8	5⅝	25	Shreveport El Dorado	.....	....	....	....	....	.....
...	...	39⅛	39	25	Signal Oil & Gas A...	.....	....	....	....	....	.....
24	9	17	7¼	N.P.	Southland Royalty...	2,400	7⅞	7⅞	†7¼	7½	— ¼
12	4	10	3⅞	5	Sunray Oil.....	4,100	4⅛	4⅛	4	4⅛	0
23	7⅛	19½	8⅜	N.P.	Texon Oil & Land....	200	11½	12	11½	12	0
81⅛	8⅞	16	8	10	Venezuela Mexico....	.....	....	....	....	....	.....
6½	1⅛	4½	1¾	5	Venezuela Petroleum.	7,400	1⅞	2½	†1¾	2¼	+ ⅜
9⅛	2	5	2	1	Woodley Petroleum..	300	4	4	4	4	0
5⅜	¼	2½	½	N.P.	Y Oil & Gas.....	.....	....	....	....	....	.....

*New High †New Low

New York Bonds

Week Ending Oct. 3

	High	Low	Last	Change
Asso. Oil gold 6s.....	103⅜	103⅜	103⅜	— ⅛
Atlantic Refg. deb. 5s...	102½	102	102	— ⅛
Cal. Pet. 5s.....	99⅛	99½	99⅞	+ ⅛
Cal. Pet. 5½s.....	102½	102¼	102¼	0
General Pet. 5s.....	102¾	102	102¾	+ ¼
Humble Oil & Refg. 5s..	103	102¼	102¼	— ⅜
Humble Oil & Refg. 5½s	102⅝	102⅜	102½	0
Pan Amer. P & T 6s....	104	103¼	103¼	— ¼
Phillips Pet. 5¼s.....	97	95	95	—1⅜
Pierce Oil deb. 8s.....	106	106	106	0
Pure Oil 5½s.....	100	99¼	99¼	— ¼
Pure Oil 5½s.....	100	98¾	98¾	— ¾
Richfield Oil Calif. 6s....	83½	69	75	—8
Shell Union Oil 5s.....	94½	91½	91⅝	—3⅜
Shell Union Oil 5s with war.....	96⅜	94	94	—2⅜
Sinclair Con. Oil 7s.....	104½	104¼	104¼	— ⅛
Sinclair Con. Oil 6½s...	103⅜	103⅜	103⅜	0
Sinclair Con. Crude 5½s.	102¼	102	102	— ⅛
Sinclair Pipeline 5s.....	102½	102⅜	102½	+ ⅛
Skelly Oil 5½s.....	96¾	95½	96⅜	— ⅛
S. O. N. J. 5s.....	104¾	103	104⅜	0
S. O. N. Y. 4½s.....	100½	100	100⅛	— ⅛
Transcontinental Oil 6½s war.....	110	109⅞	109⅞	0
Transcontinental Oil 6½s Ex-war.....	100½	100½	100½	0
Union Oil of Calif. 6s A..	109	109	109	—1
Union Oil of Calif. 5s C..	101⅜	101⅜	101⅜	— ⅜
Union Oil of Calif. 5s War	100⅛	99⅝	99⅝	— ⅜
Warner-Quinlan 6s.....	79⅞	76	76½	—1
White Eagle Oil 5½s....	103¼	103⅛	103¼	+ ¼

New York Curb Bonds

Week Ending Oct. 3

	High	Low	Last	Change
Beacon Oil 6s '36.....	99	97	97	—3½
Cities Serv. 5s '66.....	84¼	83½	84¼	+ ¼
Cities Serv. 5s '50.....	98¾	96⅝	98⅝	0
Cities Serv. G. 5½s '42..	90	86	90	+1⅛
Cities Serv. G. P. 6s '43..	96½	92¼	95½	+3½
Cont. Oil 5½s '37.....	97½	97½	97½	0
Empire O & R 5½s '43..	90	86¼	88	— ¼
Gulf Oil 5s '37.....	103	102¼	103	+ ⅜
Gulf Oil 5s '47.....	103⅞	103¼	103½	0
Indep. Oil 6s '39.....	102⅞	101½	102	—1
Sun Oil 5½s '39.....	102½	102¼	102¼	— ¼
Valvoline Oil 7s '37.....	102⅝	102⅛	102⅝	+1⅛

Oil Dividends

	Amount	Payable	Stock of Record
Amerada Corp. q.....	50c	Oct. 31	Oct. 15
Oil Shares pfd. q.....	75c	Oct. 15	Oct. 5
Salt Creek Producers q..	50c	Nov. 1	Oct. 15